

09/784232

(FILED) ENTERED AT 15:27:39 ON 06 MAR 2002)

-key terms

L1 2908 SEA FILE=CAPLUS ABB=ON PLU=ON (DETERM? OR DETECT? OR
DET## OR SCREEN?) (5A) PATHOGEN##L2 105 SEA FILE=CAPLUS ABB=ON PLU=ON L1 AND SUBSTRATE
7 SEA FILE=CAPLUS ABB=ON PLU=ON L2 AND CRYSTAL?L1 2908 SEA FILE=CAPLUS ABB=ON PLU=ON (DETERM? OR DETECT? OR
DET## OR SCREEN?) (5A) PATHOGEN##L6 1380 SEA FILE=CAPLUS ABB=ON PLU=ON L1 AND (METHOD OR
TECHNIQUE OR APPARAT? OR DEVICE)L7 60 SEA FILE=CAPLUS ABB=ON PLU=ON L6 AND SUBSTRATE
15 SEA FILE=CAPLUS ABB=ON PLU=ON L7 AND BIND?

L9 ANSWER 1 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2002:107584 CAPLUS

DOCUMENT NUMBER: 136:131210

TITLE: A device for detecting bacterial contamination
and method of use

INVENTOR(S): Sanders, Mitchell C.

PATENT ASSIGNEE(S): Expressive Constructs, Inc., USA

SOURCE: PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002010433	A2	20020207	WO 2001-US14613	20010503
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			

PRIORITY APPLN. INFO.: US 2000-201405 P 20000503

AB A device and method for detecting the presence or absence of a prokaryotic microorganism are provided, comprising the steps of identifying a protein, such as a microbial-specific protease that characterizes the presence of a specific prokaryotic microbe and thereby provides a marker for that microbe; detecting the protease that is a marker for the presence of a specific prokaryotic microbe by cleaving a substance when the protease is present; and signaling the presence of that protease when cleavage has occurred. More specifically, the method comprises identifying at least one outer membrane protein or a secreted protein that is unique to a particular microbial pathogen such as for example *Listeria monocytogenes* and that is **substrate** specific.

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L9 ANSWER 2 OF 20 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:816983 CAPLUS
DOCUMENT NUMBER: 135:354956
TITLE: High density protein arrays for screening of
protein activity
INVENTOR(S): Snyder, Michael; Reed, Mark; Zhu, Heng; Klemic,
James Frank
PATENT ASSIGNEE(S): Yale University, USA
SOURCE: PCT Int. Appl., 69 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001083827	A1	20011108	WO 2001-US14526	20010504
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			

PRIORITY APPLN. INFO.: US 2000-201921 P 20000504
US 2000-221034 P 20000727

AB The invention concerns protein chips useful for the large-scale study of protein function where the chip contains densely packed reaction wells. The invention also relates to **methods** of using protein chips to assay simultaneously the presence, amt., and/or function of proteins present in a protein sample or on one protein chip, or to assay the presence, relative specificity, and **binding** affinity of each probe in a mixt. of probes for each of the proteins on the chip. The invention also relates to **methods** of using the protein chips for high d. and small vol. chem. reactions. Also, the invention relates to polymers useful as protein chip **substrates** and **methods** of making protein chips. The invention further relates to compds. useful for the derivatization of protein chip **substrates**.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 20 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:614223 CAPLUS
TITLE: **Method and apparatus for detection of microscopic pathogens**
INVENTOR(S): Abbott, Nicholas L.; Skaife, Justin J.
PATENT ASSIGNEE(S): Wisconsin Alumni Research Foundation, USA
SOURCE: PCT Int. Appl.
CODEN: PIXXD2

Searcher : Shears 308-4994

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DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001061357	A2	20010823	WO 2001-US4858	20010215
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			

PRIORITY APPLN. INFO.: US 2000-182941 P 20000216

AB Detection **apparatus** for use in the detection of the presence of a selected pathogen in a sample are disclosed. Such **apparatus** includes: a **substrate** with a detection region on a surface thereof, the detection region having microstructures including grooves formed therein that will align liquid **crystal** material in contact therewith, the width and depth of the grooves being in the range of 10 .mu.m or less; a blocking layer on the surface of the detection region of the **substrate** that does not disrupt the alignment of liquid **crystal** material in contact therewith, the blocking layer blocking nonspecific adsorption of pathogens to the surface; and a **binding** agent on the surface of the detection region of the **substrate**, the **binding** agent specifically **binding** the selected pathogen.

L9 ANSWER 4 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:792858 CAPLUS
DOCUMENT NUMBER: 134:69953
TITLE: Micromosaic Immunoassays
AUTHOR(S): Bernard, Andre; Michel, Bruno; Delamarche, Emmanuel
CORPORATE SOURCE: Zurich Research Laboratory, IBM Research, Rueschlikon, CH-8803, Switz.
SOURCE: Analytical Chemistry (2001), 73(1), 8-12
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Immunoassays are widely used for medical diagnostics and constitute the principal **method** of **detecting** **pathogenic** agents and thus of diagnosing many diseases. These assays, which are most often performed in well plates, would be greatly improved by a practical **method** to pattern a series of antigens on a flat surface and to localize their **binding** to many analytes. But no obvious **method** exists to expose a planar surface successively to a series of antigens and analytes. Here, we present miniaturized mosaic immunoassays based on patterning lines of antigens onto a surface by

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means of a microfluidic network (.mu.FN). Solns. to be analyzed are delivered by the channels of a second .mu.FN across the pattern of antigens. Specific **binding** of the target antibodies with their immobilized antigens on the surface results in a mosaic of **binding** events that can readily be visualized in one screening using fluorescence. It is thus possible to screen solns. for antibodies in a combinatorial fashion with great economy of reagents and at a high degree of miniaturization. Such mosaic-format immunoassays are compatible with the sensitivity and reliability required for immunodiagnostic **methods**.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 5 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:796050 CAPLUS

DOCUMENT NUMBER: 132:20823

TITLE: Detection of ligands with signal amplification

INVENTOR(S): Woolverton, Christopher J.; Niehaus, Gary D.; Doane, Kathleen J.; Lavrentovich, Oleg; Schmidt, Steven P.; Signs, Steven A.

PATENT ASSIGNEE(S): Kent State University, USA

SOURCE: PCT Int. Appl., 41 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9964862	A1	19991216	WO 1999-US10413	19990512
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
US 6171802	B1	20010109	US 1998-95196	19980610
AU 9939844	A1	19991230	AU 1999-39844	19990512
BR 9910982	A	20010213	BR 1999-10982	19990512
EP 1086374	A1	20010328	EP 1999-922970	19990512
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			

PRIORITY APPLN. INFO.: US 1998-95196 A 19980610
WO 1999-US10413 W 19990512

AB A system for the detection of ligands comprising at least one receptor and an amplification mechanism coupled to the receptor wherein an amplified signal is produced as a result of receptor **binding** a ligand. Examples of suitable amplification mechanisms include antibody-embedded liq. **cryst.** materials; use of alpha-2-macroglobulin to encage an enzyme, whereby the enzyme is sepd. from its **substrate** by a receptor; and a receptor engineered to inhibit the active site of an enzyme only in the absence of a ligand. Also provided are **methods** for

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the automatic detection of ligands.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L9 ANSWER 6 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:753249 CAPLUS

DOCUMENT NUMBER: 132:9589

TITLE: Improved **methods** for detecting a
target nucleic acid fragment, particularly in
Borrelia burgdorferi and Babesia species

INVENTOR(S): Shah, Jyotsna S.; Harris, Nick S.

PATENT ASSIGNEE(S): Igenex, Inc., USA

SOURCE: PCT Int. Appl., 50 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9960009	A1	19991125	WO 1999-US10939	19990518
W: AU, CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9940011	A1	19991206	AU 1999-40011	19990518
PRIORITY APPLN. INFO.:			US 1998-88541	P 19980521
			US 1998-88696	P 19980521
			WO 1999-US10939	W 19990518

AB The present invention provides a **method** for detecting a
target nucleic acid fragment in a clin. specimen. A sample of the
specimen is solubilized and treated to denature the nucleic acids
therein. The sample is contacted with at least one probe complex
comprising a sequence complementary to a portion of the target
fragment, as well as a first member of a specific **binding**
pair. Following hybridization of probe and target, the probe
complex is contacted with a solid **substrate** linked to the
second member of the specific **binding** pair to isolate
hybridized target fragment in a probe-target-solid **substrate**
ternary complex. The isolated ternary complex is sepd. from the
sample, and the target fragment and probe complex are released into
soln. The released target fragment is amplified by PCR or RT-PCR,
and the presence of the target fragment in the clin. specimen is
detected. The **method** may be used on a variety of specimen
types, and is useful for **detecting pathogens**
such as Borrelia burgdorferi and species of Babesia . Specific
chaetotropic salt solns., wash buffers, and conditions for
amplification are disclosed. Preferred probe complexes and primers
for the **detection** of Borrelia and Babesia
pathogens are disclosed.

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L9 ANSWER 7 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:41902 CAPLUS

DOCUMENT NUMBER: 130:193412

Searcher : Shears 308-4994

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TITLE: Structure and mechanism of Ca²⁺-independent
phosphatidylinositol-specific phospholipases C
AUTHOR(S): Heinz, Dirk W.; Wehland, Jurgen; Griffith, O.
Hayes
CORPORATE SOURCE: Institut fur Organische Chemie und Biochemie,
Universitat Freiburg, Freiburg, D-79104, Germany
SOURCE: ACS Symp. Ser. (1999), 718(Phosphoinositides),
80-90
CODEN: ACSMC8; ISSN: 0097-6156
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with 33 refs. The 3-dimensional structures of
phosphatidylinositol-specific phospholipases C (PI-PLCs) from
Bacillus cereus and the human **pathogen**, Listeria
monocytogenes, have been **detd.** by x-ray **crystallog**
., both in free form and in complex with the **substrate**
-like inhibitor, myo-inositol. Both enzymes share a very similar
distorted (.beta..alpha.)8-barrel fold despite a moderate overall
sequence identity of 24%. A high structural conservation has been
found for the active site where myo-inositol is recognized in a
stereospecific fashion. Two His residues that are also conserved
between prokaryotic and eukaryotic PI-PLCs act as a general base and
a general acid during catalysis, whereas an Arg residue provides the
electrostatic stabilization of the transition state. Based on the
present **crystal** structures and sequence alignments, it is
suggested that all Ca²⁺-independent PI-PLCs known so far adopt the
same fold and catalytic mechanism.

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L9 ANSWER 8 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1998:757968 CAPLUS
DOCUMENT NUMBER: 130:92086
TITLE: The **crystal** structure of the L1
metallo-.beta.-lactamase from Stenotrophomonas
maltophilia at 1.7 .ANG. resolution
AUTHOR(S): Ullah, J. H.; Walsh, T. R.; Taylor, I. A.;
Emery, D. C.; Verma, C. S.; Gamblin, S. J.;
Spencer, J.
CORPORATE SOURCE: Division of Protein Structure, National
Institute of Medical Research, London, NW7 1AA,
UK
SOURCE: J. Mol. Biol. (1998), 284(1), 125-136
CODEN: JMOBAK; ISSN: 0022-2836
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The structure of metallo-.beta.-lactamase L1 from the opportunistic
pathogen, S. maltophilia, was **detd.** at 1.7 .ANG.
resoln. by the multi-wavelength anomalous dispersion (MAD) approach
exploiting both the intrinsic binuclear Zn center and incorporated
selenomethionine residues. L1 is unique among all known
.beta.-lactamases in that it exists as a tetramer. The protein was
found to exhibit the .alpha..beta../.beta..alpha. fold found only in
the metallo-.beta.-lactamases and displayed several unique features
not previously obsd. in these enzymes. These included a disulfide

bridge and 2 substantially elongated loops connected to the active site of the enzyme. Two closely spaced Zn^{2+} ions are bound at the active site with tetrahedral ($Zn1$) and trigonal bipyramidal ($Zn2$) coordination, resp.; these were bridged by a water mol. which it was proposed acts as the nucleophile in the hydrolytic reaction. Ligation of the 2nd Zn^{2+} ion involved both residues and geometry which had not been previously obsd. in the metallo- β -lactamases. Simulated binding of the **substrates**, ampicillin, ceftazidime, and imipenem, suggested that the **substrate** is able to bind to the enzyme in a variety of different conformations whose common features are direct interactions of the β -lactam carbonyl O and N atoms with the Zn^{2+} ions and of the β -lactam carboxylate with Ser-187. Here, the authors describe a catalytic mechanism whose principal features are a nucleophilic attack of the bridging water on the β -lactam carbonyl C atom, electrostatic stabilization of a neg. charged tetrahedral transition state, and protonation of the β -lactam N atom by a 2nd water mol. coordinated by $Zn2$. Further, the authors propose that direct metal-**substrate** interactions provide a substantial contribution to **substrate** binding and that this may explain the lack of specificity which is a feature of this class of enzyme. (c) 1998 Academic Press.

REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L9 ANSWER 9 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1996:614832 CAPLUS

DOCUMENT NUMBER: 125:241759

TITLE: **Crystal** structures of Toxoplasma gondii HGXPRTase reveal the catalytic role of a long flexible loop

AUTHOR(S): Schumacher, Maria A.; Carter, Darrick; Roos, David S.; Ullman, Buddy; Brennan, Richard G.

CORPORATE SOURCE: Dep. Biochem. Mol. Biol., Oregon Health Sciences Univ., Portland, OR, 97201-3098, USA

SOURCE: Nat. Struct. Biol. (1996), 3(10), 881-887
CODEN: NSBIEW; ISSN: 1072-8368

DOCUMENT TYPE: Journal

LANGUAGE: English

AB **Crystal** structures of **substrate**-free and XMP-soaked hypoxanthine-guanine-xanthine phosphoribosyltransferase (HGXPRTase) of the opportunistic **pathogen**, T. gondii, were **detd.** to 2.4 and 2.9 Å. resolu., resp. HGXPRTase displayed the conserved phosphoribosyltransferase fold. In the structure of the enzyme bound to its product, a long flexible loop (residues 115-126) was located away from the active site. Comparison with the **substrate**-free structure revealed a striking relocation of the loop, which was poised to cover the catalytic pocket, thus providing a mechanism by which the HG(X)PRTases shield their oxocarbenium transition states from nucleophilic attack by the bulk solvent. The conserved Ser-117-Tyr-118 dipeptide within the loop was brought to the active site, completing the ensemble of catalytic residues.

L9 ANSWER 10 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1995:438161 CAPLUS

DOCUMENT NUMBER: 122:185337

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TITLE: A calibrator or control composition for an IgM
y washing the sample area for a total of 6 min at 37.
A reading was taken of the reaction zone after the six minute time
period and a second reading was taken 300 s later using a front
surface fluorometer by directing 360 nm radiation through an opening
in the assay module beneath the reaction zone and collecting the
reflected 450 nm radiation. The increase in fluorescence, a
function of the amt. of bound enzyme-labeled conjugate, was calcd.
The result obtained was compared to the results obtained with a
defined neg. calibrator and the pos. calibrators 15 described in
Example III and was detd. thereby to be pos. or neg. on the basis of
a detd. cutoff value.

L9 ANSWER 11 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1995:222764 CAPLUS

DOCUMENT NUMBER: 123:4385

TITLE: **Crystal** structure of scytalone
dehydratase -- a disease **determinant**
of the rice **pathogen**, Magnaporthe
grisea

AUTHOR(S): Lundqvist, Tomas; Rice, Janet; Hodge, C
Nicholas; Basarab, Gregory S; Pierce, John;
Lindqvist, Ylva

CORPORATE SOURCE: Uppsala Biomedical Center, Swedish University of
Agricultural Sciences, Uppsala, S-751 24, Swed.

SOURCE: Structure (London) (1994), 2(10), 937-44
CODEN: STRUE6

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The 3-dimensional structure of scytalone dehydratase in complex with
a competitive inhibitor was detd. at 2.9 .ANG. resoln. A novel
fold, a cone-shaped .alpha.+ .beta. barrel, was adopted by the
monomer in this trimeric protein, burying the hydrophobic active
site in its interior. The interactions of the inhibitor with the
protein side chains were also identified. The similarity of the
inhibitor to the **substrate** and the side chains involved in
binding afforded some insights into possible catalytic mechanisms.
These results provide a 1st look into the structure and catalytic
residues of a non-metal dehydratase, a large class of hitherto
structurally uncharacterized enzymes. It is envisaged that a
detailed structural description of scytalone dehydratase will assist
in the design of new inhibitors for controlling rice blast disease.

L9 ANSWER 12 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1994:239633 CAPLUS

DOCUMENT NUMBER: 120:239633

TITLE: **Devices** and **methods** for
detection of an analyte based upon light
interference

INVENTOR(S): Bogart, Gregory R.; Moddel, Garret R.; Maul,
Diana M.; Etter, Jeffrey B.; Crosby, Mark;
Miller, John B.; Blessing, James; Kelley,
Howard; Sandstrom, Torbjorn; Stibler, Lars

PATENT ASSIGNEE(S): Biostar, Inc., USA

SOURCE: PCT Int. Appl., 208 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

Searcher : Shears 308-4994

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FAMILY ACC. NUM. COUNT: 14
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9403774	A1	19940217	WO 1993-US5673	19930610
W: AT, AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9179004	A1	19921021	AU 1991-79004	19910320
AU 653940	B2	19941020		
EP 539383	A1	19930505	EP 1991-910056	19910320
EP 539383	B1	19960918		
R: BE, CH, DE, ES, FR, GB, IT, LI, LU, NL, SE				
JP 05506936	T2	19931007	JP 1991-509344	19910320
JP 3193373	B2	20010730		
ES 2094224	T3	19970116	ES 1991-910056	19910320
JP 2001235473	A2	20010831	JP 2000-287242	19910320
JP 07509565	T2	19951019	JP 1993-505280	19930610
EP 727038	A1	19960821	EP 1993-915341	19930610
R: ES, FR, GB, IT, SE				
EP 1126278	A2	20010822	EP 2001-108521	19930610
EP 1126278	A3	20011017		
R: ES, FR, GB, IT, SE				

PRIORITY APPLN. INFO.:

US 1992-924343	A	19920731
EP 1991-910056	A	19910320
JP 1991-509344	A3	19910320
WO 1991-US1781	A	19910320
EP 1993-915341	A3	19930610
WO 1993-US5673	W	19930610

AB **Methods** for analyzing an optical surface for an analyte of interest in a test sample and related instruments/**devices** are disclosed. The **method** entails the use of a thin-film optical immunoassay **device** whereby an analyte of interest is detected in a test sample through spectral changes in the light impinging on the surface prior to and after the **binding** of the analyte to a reactive **substrate** layer(s). The **device** includes a **substrate** which has a 1st color in response to light impinging thereon. The **substrate** also exhibits a 2nd color which is different from the 1st color. The 2nd color is exhibited in response to the same light when the analyte is present on the surface. Thus, SiO was vapor deposited on a polished monocryst. Si wafer to a thickness of 550 .ANG.; the film had a golden interference color. The film was activated with N-(2-aminoethyl)-3-aminopropyltrimethoxysilane, coated with a DNP-albumin conjugate to a thickness of 40.ANG., rinsed, and dried. The coated wafer was used in a competitive immunoassay for DNP using goat anti-DNP antibody and an ellipsometer to measure the change in mass at the surface from the change in light intensity.

L9 ANSWER 13 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1993:240872 CAPLUS

DOCUMENT NUMBER: 118:240872

TITLE: Inhibition of mitochondrial respiration by furancarboxylic acid accumulated in uremic serum in its albumin-bound and non-dialyzable form

AUTHOR(S): Niwa, T.; Aiuchi, T.; Nakaya, K.; Emoto, Y.; Miyazaki, T.; Maeda, K.

Searcher : Shears 308-4994

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CORPORATE SOURCE: Dep. Intern. Med., Nagoya Univ., Nagoya, Japan
SOURCE: Clin. Nephrol. (1993), 39(2), 92-6
CODEN: CLNHBI; ISSN: 0301-0430

DOCUMENT TYPE: Journal

LANGUAGE: English

AB 3-Carboxy-4-methyl-5-propyl-2-furanpropanoic acid (CMPF) accumulates markedly in uremic serum in its albumin-bound form. To det. if CMPF can be removed by newly developed dialyzers with high-flux membranes which are permeable to low-mol.-wt. proteins, such as .beta.2-microglobulin (.beta.2-MG), serum levels of CMPF were detd. before and after hemodialysis using these high-flux membrane dialyzers. In addn., to det. the **pathogenic** role of CMPF in uremic patients, its cellular toxicity due to its effect on mitochondrial respiration was studied. The redn. rates of CMPF by hemodialysis using the dialyzers ranged from -17% to -24%, demonstrating the nondialyzability of CMPF due to its strong albumin-binding, while those of .beta.2-MG ranged from 11% to 43%. CMPF inhibited ADP-stimulated oxidn. of NADH-linked **substrates** in isolated mitochondria dose-dependently regardless of the presence of serum albumin. This inhibition was obsd. even at a concn. of 0.2 mM, which is comparable to the serum levels of CMPF in the hemodialysis patients. In conclusion CMPF which cannot be removed even by high-flux membrane dialyzers, is a strong inhibitor of mitochondrial respiration, and novel purifn. **methods** to remove CMPF from the blood of uremic patients should be developed.

L9 ANSWER 14 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1992:169623 CAPLUS

DOCUMENT NUMBER: 116:169623

TITLE: **Substrate**-adhered polymyxin immunoassay **device** for lipopolysaccharide testing, and **method** for its preparation

INVENTOR(S): Blais, Berton W.; Yamazaki, Hiroshi

PATENT ASSIGNEE(S): Can.

SOURCE: Can. Pat. Appl., 54 pp.

CODEN: CPXXEB

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CA 2017093	AA	19911118	CA 1990-2017093	19900518
JP 04270965	A2	19920928	JP 1991-113467	19910517
US 5510242	A	19960423	US 1993-87013	19930707
PRIORITY APPLN. INFO.:			CA 1990-2017093	19900518
			CA 1991-2037726	19910307
			CA 1991-2037727	19910307
			US 1991-697683	19910509

AB An improved ap. is disclosed for the detection of Gram-neg. bacterial lipopolysaccharide (LPS). The improved **app.** and process uses a min. of expensive antibody. Polymyxin is adhered to a **substrate** of e.g. plastic or (non)woven cloth. The Polymyxin can then **bind** to LPS which may in turn be identified by a std. immunoassay. Nonwoven polyester cloth is esp.

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suited for the **device**. The **app.** is esp. useful for the **detection** of bacterial **pathogens** in food. A polymyxin B-coated nonwoven polyester cloth was prep'd. and used in the detection of Salmonella.

L9 ANSWER 15 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1991:225216 CAPLUS

DOCUMENT NUMBER: 114:225216

TITLE: Parallel solid-phase **method** to determine multiple immunologically detectable substances

INVENTOR(S): Bayer, Hubert; Kirch, Peter; Kopetzki, Erhard; Klein, Christian

PATENT ASSIGNEE(S): Boehringer Mannheim G.m.b.H., Fed. Rep. Ger.

SOURCE: Eur. Pat. Appl., 12 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 379216	A1	19900725	EP 1990-101095	19900119
EP 379216	B1	19940608		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL				
DE 3901638	A1	19891207	DE 1989-3901638	19890120
DE 3901638	C2	19990325		
DE 3924239	A1	19910124	DE 1989-3924239	19890721
AT 107030	E	19940615	AT 1990-101095	19900119
PRIORITY APPLN. INFO.:			DE 1989-3901638	A 19890120
			DE 1989-3924239	A 19890721
			DE 1988-3817716	A1 19880525
			EP 1990-101095	A 19900119

AB A parallel solid-phase immunoassay or specific **binding** assay for detg. multiple analytes in a sample (e.g. multiple antibodies against different epitopes on a virus) uses (1) a specific **binding** partner (e.g. avidin) bound to a solid phase; (2) a series of receptors R1, each comprising a conjugate of the complementary specific **binding** partner (e.g. biotin) and a ligand for 1 of the analytes; and (3) a series of receptors R2, each comprising a conjugate of a ligand for 1 of the analytes and a detectable moiety (label). The ligand and label on receptors R2 may be the same for all analytes (allowing e.g. the detection of a virus in all its variants) or may be different for each analyte (allowing the detection of each analyte individually). Thus, streptavidin was coupled to bovine serum albumin via maleimidohexanoyl-N-hydroxysuccinimide and adsorbed on the surface of a polystyrene tube. In a test for antibodies to human immunodeficiency virus (HIV), the tube was incubated with .gtoreq.1 biotinylated HIV antigen and a serum or plasma sample, washed, incubated with a a sheep anti-human Ig antibody conjugated to peroxidase, washed, and incubated with a peroxidase **substrate** (ABTS) for photometric detection.

L9 ANSWER 16 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1991:120157 CAPLUS

DOCUMENT NUMBER: 114:120157

Searcher : Shears 308-4994

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TITLE: Avidin-biotin-assisted immunoassay using
immunoaffinity chromatography for antibody or
antigen detection
INVENTOR(S): Thieme, Thomas; Ferro, Adolph; Fellman, Jack H.;
Gavojdea, Stefan
PATENT ASSIGNEE(S): Epitope, Inc., USA
SOURCE: PCT Int. Appl., 26 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9008957	A1	19900809	WO 1990-US378	19900125
W: AU, BB, BG, BR, CA, FI, HU, JP, KP, KR, LK, MC, MG, MW, NO, RO, SD, SU				
RW: AT, BE, BF, BJ, CF, CG, CH, CM, DE, DK, ES, FR, GA, GB, IT, LU, ML, MR, NL, SE, SN, TD, TG				
CA 2045673	AA	19900731	CA 1990-2045673	19900125
AU 9050986	A1	19900824	AU 1990-50986	19900125
AU 640635	B2	19930902		
EP 455735	A1	19911113	EP 1990-903466	19900125
EP 455735	B1	19940914		
R: AT, BE, DE, DK, FR, GB, IT, LU, NL, SE				
JP 04503109	T2	19920604	JP 1990-503517	19900125
NO 9102951	A	19910913	NO 1991-2951	19910729
PRIORITY APPLN. INFO.:			US 1989-302877	19890130
			WO 1990-US378	19900125

AB A **method** is provided for antibody detection in a body fluid for screening and diagnostic purposes. The **method** uses an antibody-**binding** protein bonded to a porous matrix within a transparent column. A test fluid contg. the antibody is contacted with the protein-bonded matrix to immobilize the antibody. A biotinylated antigen of interest is contacted with the immobilized antibody, and enzyme-linked avidin is contacted with the resulting immobilized complex. This final immobilized complex is contacted with enzyme **substrate** to produce a colored product which correlates to the presence of the antibody to be detected. Color comparison controls may be run in the same transparent column using addnl. aliquots of agarose sepd. by polyethylene disks. Thus, the above **method** was used with protein A-agarose matrix, avidin-peroxidase conjugate, and biotinylated human immunodeficiency virus (HIV) lysate to detect antibodies against HIV-1 in serum and saliva of AIDS patients. Using antibody-pos. samples, a near max. dark brown color was obtained on the agarose beads following the enzymic color development reaction. Control serum and saliva gave essentially colorless agarose beads. The **methods** of the invention are also used for antigen detection.

L9 ANSWER 17 OF 20 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:173609 CAPLUS
DOCUMENT NUMBER: 112:173609
TITLE: Colorimetric detection of PCR products using the
DNA-**binding** protein TyrR
AUTHOR(S): Triglia, Tony; Argyropoulos, Victor P.;
Davidson, Barrie E.; Kemp, David J.

Searcher : Shears 308-4994

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CORPORATE SOURCE: Walter and Eliza Hall Inst. Med. Res.,
Melbourne, 3050, Australia
SOURCE: Nucleic Acids Res. (1990), 18(4), 1080
CODEN: NARHAD; ISSN: 0305-1048
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Recent **methods** eliminating the need for electrophoresis in the detection of PCR products include the use of the DNA-**binding** protein, GCN4 or magnetic beads. The DNA-**binding** protein, TyrR, an Escherichia coli protein responsible for the regulation of expression of eight operons involved in arom. biosynthesis and transport, can be used much like GCN4. Basically, the **method** involves **binding** GCN4 or TyrR to the wells of microtiter plates, then adding PCR-amplified DNA which has either a GCN4 or a TyrR **binding** site attached to one oligonucleotide and a biotin group attached to the other oligonucleotide. Simultaneously, avidin-labeled peroxidase **binds** to the biotin. After washing, the peroxidase can be detected easily with a chromogenic **substrate**. Only GCN4 (and not TyrR) coated wells **bind** the PCR-amplified material with the GCN4 **binding** site, and only the TyrR-coated wells **bind** the PCR-amplified material with the TyrR **binding** site. The use of two different DNA-**binding** proteins should allow the simultaneous **detection** of two different **pathogens** or two genotypes of the same pathogen.

L9 ANSWER 18 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1989:532410 CAPLUS
DOCUMENT NUMBER: 111:132410
TITLE: Antigenic determinants recognized by antibodies obtained using a pathogenic agent or a derivative thereof that presents a restricted set of antigens, and production of antimalaria vaccines
INVENTOR(S): Lyon, Jeffrey A.; Chulay, Jeffrey D.; Thomas, Alan W.; Howard, Russel J.; Weber, James L.
PATENT ASSIGNEE(S): United States Dept. of the Army, USA
SOURCE: PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8806892	A1	19880922	WO 1988-US788	19880314
W: JP				
RW: AT, BE, BJ, CF, CG, CH, CM, DE, FR, GA, GB, IT, LU, ML, MR, NL, SE, SN, TD, TG				
US 4906564	A	19900306	US 1987-25741	19870313
EP 306524	A1	19890315	EP 1988-903541	19880314
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
PRIORITY APPLN. INFO.: US 1987-25741				19870313
AB A method is presented for identifying antigenic determinants of a pathogenic agent, comprising (A) providing a sample of intact pathogen, (B) contacting the sample				

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with a heterogeneous mixt. of antibodies from functional immune serum, such that an antibody from the mixt. **binds** to an antigenic **determinant** on the **pathogen**, (C) isolating the antibody from the sample, and (D) using the antibody to probe a heterogeneous mixt. of antigens produced by the pathogen. Antigens so identified are used in vaccines against the pathogen. Plasmodium falciparum schizont-infected erythrocytes were cultured for 5 h at 37.degree. in a functional immune serum from Aotus monkeys; during this time, the merozoites released from the infected erythrocytes developed a thick coat of antigen-antibody complexes and became agglutinated. These merozoites were extd. with Triton X-100 at pH 8 to obtain antibodies. DNA from P. falciparum merozoites was ligated into the lacZ gene of .lambda.gt11 vector DNA for prodn. of a gene library in Escherichia coli. Phage plaques were overlaid with a IPTG-treated nitrocellulose filter to induce expression of the lacZ gene. Then the antibody prepn. was applied to the filter, followed by washing, application of rabbit anti-Aotus IgG conjugated to alk. phosphatase, and application of chromogenic **substrate**. Of 80,000 plaques adsorbed on the filter, 20 showed color formation indicative of antigen-antibody complexing; 5 of these were cloned and found to code for merozoite surface glycoprotein gp195.

L9 ANSWER 19 OF 20 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1987:100758 CAPLUS

DOCUMENT NUMBER: 106:100758

TITLE: **Method** and reagent kit for **pathogenic streptococcal antibody determination**

INVENTOR(S): Hayano, Seiki; Yokogawa, Kanae; Kurooka, Shigeru

PATENT ASSIGNEE(S): Dainippon Pharmaceutical Co., Ltd., Japan

SOURCE: U.S., 7 pp. Cont. of U.S. Ser. No. 249,231, abandoned.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4592995	A	19860603	US 1983-552014	19831116
PRIORITY APPLN. INFO.:			US 1981-249231	19810330

AB Pathogenic streptococcal esterase antibody in human blood serum is quant. **detd.** by (a) adding a **pathogenic streptococcal esterase** to the blood sample; (b) adding an immobilized protein-A which nonspecifically **binds** to the antibody to form an esterase-antibody-insol. protein-A complex; (c) sepg. the complex from the mixt. by centrifugation; and (d) measuring the activity of the esterase in the complex. The kit and **method** are useful for diagnosis of various diseases caused by pathogenic streptococcal infections. Type A-I esterase, prepd. from Streptococcus pyogenes, was added to dild. patient serum and incubated. Cell walls of Staphylococcus aureus Cowan I, contg. protein-A, were added next and incubated. The reaction mixt. was washed and centrifuged. The esterase activity was measured at 412 nm after addn. of S-acetylthiophenol as **substrate** to det. type A-I esterase antibody.

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L9 ANSWER 20 OF 20 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1985:42494 CAPLUS
DOCUMENT NUMBER: 102:42494
TITLE: **Methods** and structures employing
non-radioactive chemically-labeled
polynucleotide probes
INVENTOR(S): Stavrianopoulos, Jannis G.; Kirtikar, Dollie;
Johnston, Kenneth H.; Thalenfeld, Barbara E.
PATENT ASSIGNEE(S): Enzo Bio Chem, Inc., USA
SOURCE: Eur. Pat. Appl., 76 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
EP 117440	A1	19840905	EP 1984-100836	19840126	
EP 117440	B1	19930407			
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE					
IL 70765	A1	19880731	IL 1984-70765	19840123	
CA 1309672	A1	19921103	CA 1984-445896	19840123	
DK 8400313	A	19840728	DK 1984-313	19840124	
NO 8400289	A	19840730	NO 1984-289	19840125	
AU 8423798	A1	19840802	AU 1984-23798	19840126	
AU 577776	B2	19881006			
ES 529179	A1	19850616	ES 1984-529179	19840126	
EP 525821	A2	19930203	EP 1992-114727	19840126	
EP 525821	A3	19940302			
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE					
AT 87929	E	19930415	AT 1984-100836	19840126	
JP 59141599	A2	19840814	JP 1984-14165	19840127	
JP 2825090	B2	19981118			
ES 540485	A1	19860216	ES 1985-540485	19850216	
US 4994373	A	19910219	US 1989-385986	19890720	
PRIORITY APPLN. INFO.:				US 1983-461469	19830127
				EP 1984-100836	19840126
				US 1985-732374	19850509

AB The title probes, such as single-stranded DNA probes contg.
.gtoreq.25 bases, contain esp. enzyme labels and are used for the
detection and identification of complementary single-stranded DNA
(fixed on an inert support) by hybridization, followed by
spectrophotometric detn. of the enzyme in the double-stranded
hybrids formed. These probes can replace hazardous, expensive,
short-lived radiolabeled probes, and ELISA also can be used to det.
the formed hybrid. The support may be glass, polystyrene,
nitrocellulose, dextran, etc. Recommended enzyme labels and some
substrates are tabulated. The **method** is useful
for **detecting** the presence of **pathogens** (e.g.,
Streptococcus, Staphylococcus, Pneumococcus, etc.) in clin. samples
by detection of their genetic material.

LINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH,
LUS, JAPIO' ENTERED AT 15:34:17 ON 06 MAR 2002)
L10 15 S L3
L11 47 S L8

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L12 58 S L10 OR L11
47 DUP REM L12 (11 DUPLICATES REMOVED)

L13 ANSWER 1 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2002-083189 [11] WPIDS
DOC. NO. CPI: C2002-025293
TITLE: Analyzing variant sites of target nucleic acids,
useful for identifying and detecting point
mutations, specifically those mutations correlated
with diseases e.g. cancer, by limited primer
extension.
DERWENT CLASS: B04 D16
INVENTOR(S): GLAZER, A N; XU, H
PATENT ASSIGNEE(S): (DNAS-N) DNA SCI INC
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001092583	A1	20011206	(200211)*	EN	54
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE					
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG					
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ					
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN					
YU ZA ZW					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001092583	A1	WO 2001-US18023	20010531

PRIORITY APPLN. INFO: US 2000-586125 20000602
AN 2002-083189 [11] WPIDS
AB WO 200192583 A UPAB: 20020215

NOVELTY - Analyzing (M1) a variant site of a target nucleic acid (TNA) by conducting template dependent extension reaction in presence of a mixture of labeled extendible nucleotide (nt) (LEN) and labeled non-extendible nts (LNEN), and detecting incorporation of labeled nt indicating identity of nt at variant site, since incorporated nt is complementary to nt at site of variation.

DETAILED DESCRIPTION - Analyzing (M1) a variant site of a target nucleic acid (TNA) by conducting template dependent extension reaction in presence of a mixture of labeled extendible nucleotide (nt) (LEN) and labeled non-extendible nts (LNEN), and detecting incorporation of labeled nt indicating identity of nt at variant site, since incorporated nt is complementary to nt at site of variation. (M1) comprises:

(a) conducting a template-dependent extension reaction comprising extending a primer (I) in the presence of TNA and a mixture of nucleotides comprising a LEN and LNEN being complementary to a different allelic form of TNA and optionally differentially labeled, where (I) hybridizes to a segment of TNA such that the 3'-end of (I) hybridizes adjacent to the variant site of TNA, where if the LEN is complementary to the nucleotide occupying the variant

site, (I) is extended by incorporation of the LEN, and can be extended further if one or more nucleotides downstream of the variant site are complementary to one of the nucleotides in the mixture, and if the LNEN is complementary to the nucleotide occupying variant site, (I) is extended by incorporation of the LNEN; and

(b) detecting incorporation of labeled nucleotide into the extended (I), the identity of the labeled nucleotide incorporated into (I) indicating the identity of the nucleotide at the variant site, where the identity of the incorporated nucleotide is determined from the label borne by the incorporated nucleotide and/or the size of the extended (I).

INDEPENDENT CLAIMS are also included for the following:

(1) analyzing (M2) variant sites in one or more TNA comprising:

(a) conducting several template-dependent extension reactions in the presence of several different primers, where the primers hybridize adjacent to different variant sites of TNAs and are differentially labeled, where extension reaction comprises contacting a sample containing the TNAs with one of the different labeled primers, and exposing the primer to a mixture of nucleotides comprising LEN and LNEN, where the extension reactions generate several different extension products, which are from different variant sites being distinguishable on the basis of the different labels borne by the extended primers; and

(b) detecting incorporation of labeled nucleotides into the extension products as an indication of the nucleotides occupying the site of variation in TNAs, where the identity of the incorporated nucleotide is determined from the label borne by the incorporated nucleotide and/or the size of the extended primer; and

(2) a kit (II) utilized in (M1) comprising LEN, LNEN, nucleotides complementary to different allelic forms of TNA, and a primer that hybridizes to a segment of TNA such that 3' end of the primer adjacent to the variant site of TNA.

USE - M1 is useful for analyzing a variant site of a target nucleic acid, and M2 is useful for analyzing variant sites in one or more TNA (claimed).

The **method** and (II) is useful for identification and detection of point mutations (e.g. somatic point mutation), specifically those mutations correlated with diseases such as diseases associated with SNPs which include sickle cell anemia, cystic fibrosis; autoimmune diseases; formation of oncogenes and cancer. For e.g. identifying whether a nucleic acid from a particular subject includes a wild-type allele or a mutant allele at a particular single nucleotide polymorphic (SNP) site. Further, the **methods** can be utilized to establish the genotype of the individual being tested (i.e., distinguish whether the individual is a reference-type homozygote, a heterozygote or a variant-type homozygote). The genotyping utility of the **methods** makes them useful within the context of medical diagnosis and prognosis. Since many SNPs are associated with various diseases and clinicians can utilize the results of the genotype study to assess the presence of disease, whether an individual is a carrier of disease, the likelihood that an individual will get a particular disease and the likely efficacy of various treatment alternatives.

The **methods** also have a variety of non-medical uses, such as **detecting pathogenic** microorganisms, paternity testing and forensic analysis in which polymorphisms in specific genes can be determined in, for e.g. blood or semen

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obtained from a crime scene to indicate whether a particular suspect was involved in the crime. In like manner, polymorphism analysis may be utilized in disputes to aid in determining whether a particular individual is the parent of a certain child. The **methods** can also be used to identify SNPs in non-humans, including, for e.g. other animals, plants, bacteria and viruses.

The **methods** are also useful for identifying point mutations in pathogens that could potentially result in altered pathogenicity or resistance to certain therapeutics; and to identify cells and strains having a desired genetic constitution for use in various biotechnology applications. The **method** is utilized as a diagnostic tool and a prognostic tool of a disease which is useful in formulating optimal treatment for the patient.
Dwg.0/6

L13 ANSWER 2 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2002-114152 [15] WPIDS
DOC. NO. NON-CPI: N2002-085150
DOC. NO. CPI: C2002-034959
TITLE: Analysis of polynucleotides in a sample using generic capture sequences comprises amplifying target polynucleotide, and utilizing the product to indirectly assay the sample for the polynucleotide.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): LAI, J H; PHILLIPS, V E; WATSON, A R
PATENT ASSIGNEE(S): (QUAN-N) QUANTUM DOT CORP
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001083823	A1	20011108	(200215)*	EN	85
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ					
DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE					
KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO					
NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ					
VN YU ZA ZW					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001083823	A1	WO 2001-US13979	20010430

PRIORITY APPLN. INFO: US 2000-200635P 20000428

AN 2002-114152 [15] WPIDS

AB WO 200183823 A UPAB: 20020306

NOVELTY - Assaying, (M1) for an amplification product (AMP) from a first target polynucleotide, (TP), comprising providing a sample that is suspected of containing AMP, where the AMP is a polynucleotide comprising a first label and a capture sequence not present in the TP at the same position, is new.

DETAILED DESCRIPTION - A target polynucleotide, (TP), is amplified, where first primer has a tag sequence, the complement of which is formed on the opposite strand during amplification and is

referred to as capture sequence (CS), and the opposite strand is referred to as an amplification product (AMP) has a label; probe conjugated to **substrate** specific to CS, is contacted with AMP to form AMP detection complex. Assaying (M1) for an AMP from a first TP, comprises providing a sample that is suspected of containing AMP, where the AMP is a polynucleotide comprising a first label and a capture sequence not present in the TP at the same position, where the AMP is formed by primer extension from a template, where the template comprises a complement to the TP and a target noncomplementary region, where the capture sequence is a complement to the target noncomplementary region, providing a **substrate** that is conjugated to a first capture probe, contacting the sample with the capture probe under a first set of hybridization conditions, where the capture probe can **bind** to the capture sequence under the first set of hybridization conditions and determining if the first label is associated with the **substrate**.

INDEPENDENT CLAIMS are also included for the following:

(1) forming (M2) an AMP detection complex for assaying a sample for a first TP;

(2) an amplification product detection complex comprising a capture probe polynucleotide hybridized to capture sequence of labeled amplification product from a TP, where the capture probe polynucleotide is conjugated to a **substrate**, where the capture sequence is not present in a region of the TP which is amplified and is introduced into the amplification product by copying a template polynucleotide, the template polynucleotide comprising a target noncomplementary region and a region complementary to the TP, where the target noncomplementary region was introduced into the template polynucleotide by extension of a primer hybridized to the target polynucleotide, the primer comprising the target noncomplementary region and where the capture sequence is complementary to the target noncomplementary region; and

(3) a kit for assaying for an AMP from a TP comprises a **substrate** attached to a capture probe, a first primer comprising a 3' end a first target complementary region located at the 3' end of the first primer, and a first target noncomplementary region that is not complementary to the first TP at a position 3' of a sequence to which the first target complementary region can hybridize, a second primer, label, housing for retaining the **substrate**, first primer, second primer, and a label and instruction provided with the housing that describe how to use the components of the kit to assay a sample by forming an AMP from the TP using the first and second primers that comprises the label and a capture sequence that is complementary to the target noncomplementary in the first primer, where the capture sequence can **bind** to the capture probe.

USE - (M2) is useful for forming an AMP detection complex for assaying a sample for first TP. The **method** further comprises determining if the first label is associated with the first **substrate**, where AMP is produced at a detectably higher level from at least one allele of a locus having at least two alleles and the first **substrate** preferably a first microsphere comprising a first spectral code is identified by decoding the spectral code which is preferably performed prior to, simultaneously or subsequent to determining if the first label from the second primer is associated with a **substrate**, first TP, preferably single-stranded or double-stranded DNA or RNA and a

polymerase, preferably DNA polymerase having reverse transcriptase activity is used to form the first primer extension product (claimed). (M1) is useful for particular polynucleotide sequences, whether based on SNPs, conserved sequences, or other features or useful in a wide variety of different applications. The **method** is useful for pharmacogenetic testing, such **methods** can be used in a forensic setting to identify the species or individual which was the source of a forensic specimen. Polynucleotide analysis **methods** can also be used in an anthropological setting. Paternity testing is another area, as is testing for compatibility, between prospective tissue or blood donors and patients in need, and in screening for heredity disorders. (M1) is also useful for studying gene expression in response to a stimulus. Other applications include human population genetics, analyses of human evolutionary history, and characterization of human haplotype diversity. The **method** is useful to detect immunoglobulin class switching and hypervariable mutation of immunoglobulins, to **detect** polynucleotide sequences from contaminants or **pathogens** including bacteria, yeast, viruses, for HIV subtyping to determine the particular strains or relative amounts of particular strains infecting an individual, and can be repeatedly to monitor changes in the individuals predominant HIV strains, such as the development of drug resistance or T cell tropism; and to detect single nucleotide polymorphisms, which may be associated with particular alleles or subsets of allele. Over 1.4 million different single nucleotide polymorphisms (SNPs) in the human population have been identified. The **method** is also useful for mini-sequencing and for detection of mutations. Any type of mutation can be detected, including without limitation SNPs, insertions, deletions, transitions, transversions, inversions, frame shifts, triplet repeat expansions, and chromosome rearrangements. The **method** is useful to detect nucleotide sequences associated with increased risk of diseases or disorders, including cystic fibrosis, Tay-Sachs, sickle-cell anemia, etc. The **method** is useful for any assay in which a sample can be interrogated regarding an amplification product from a target polynucleotide. Typical assays involve determine the presence of the amplification product in the sample or its relative amount, or the assays may quantitative or semi-quantitative. Results from such assays can be used to determine the presence or amount of the target polynucleotide present in the sample. The above **methods** are particularly useful in multiplex settings where several TP are to be assayed.

Dwg.0/15

L13 ANSWER 3 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 2002-114149 [15] WPIDS
 DOC. NO. NON-CPI: N2002-085149
 DOC. NO. CPI: C2002-034956
 TITLE: Microfabricated electrochemical biosensor, useful for detecting ions, proteins and nucleic acid, produced by integrated circuit technology.
 DERWENT CLASS: B04 D16 J04 L03 S03 S05 U12
 INVENTOR(S): GAU, J
 PATENT ASSIGNEE(S): (GAUJ-I) GAU J
 COUNTRY COUNT: 95
 PATENT INFORMATION:

09/784232

PATENT NO	KIND	DATE	WEEK	LA	PG

WO 2001083674	A1	20011108	(200215)*	EN	84
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ					
DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE					
KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO					
NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ					
VN YU ZA ZW					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE

WO 2001083674	A1	WO 2001-US14257	20010502

PRIORITY APPLN. INFO: US 2000-201603P 20000503

AN 2002-114149 [15] WPIDS

AB WO 200183674 A UPAB: 20020306

NOVELTY - Detecting or quantifying an analyte (I) by applying a sample to the electrodes of a microfabricated electrochemical biosensor and measuring an electrical signal, is new. The biosensor comprises a **substrate** having fabricated on it, by integrated circuit (IC) technology, at least two electrodes that consist of a single layer of conductive material.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) microfabricated electrochemical biosensor comprising a silicon **substrate** and three redox-sensing electrodes, each a single layer of gold formed by IC technology;

(2) detecting (I) by applying a sample to a biosensor having two surface areas with different properties, one for immobilizing (I) and the other for:

(a) confining the sample by surface tension forces between the two areas; and

(b) for detecting (I); and

(3) **device** for detecting a redox event of at least one (I).

USE - For detecting/determining ions (metals) or macromolecules (DNA, RNA or proteins), e.g. in rapid **detection** of **pathogenic** bacteria.

ADVANTAGE - The sensor may incorporate hybridization and enzymatic amplification for increased sensitivity and miniaturization. Sample and reagent can be confined by surface tension forces, making it possible to incorporate the sensor in portable/hand-held instruments and protecting them against shaking or inversion. The entire sensor system can be prepared on a single chip, eliminating the need for external components. The sensors are easy to produce, inexpensive and reusable, with the same robustness and reversible electrochemical performance as conventional sensors. By confining sample and detection reagent to specific regions of the **substrate**, problems of non-specific binding are overcome (improving sensitivity), only very small samples are required (ensuring transport by diffusion, without the need for any mixing), coverage of the electrodes is easily controlled and loss of target analyte is minimized.

Dwg.0/35

L13 ANSWER 4 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 2002-017643 [02] WPIDS
 DOC. NO. NON-CPI: N2002-014058
 DOC. NO. CPI: C2002-005119
 TITLE: A new spatially defined array comprises protein expression systems bound at discrete positions to a **substrate** and is useful to screen for potentially useful compounds such as receptor ligands.
 DERWENT CLASS: B04 D16 S03 T01
 INVENTOR(S): PATRON, A; SAWAFTA, R; ZHOU, B
 PATENT ASSIGNEE(S): (PATR-I) PATRON A; (SAWA-I) SAWAFTA R; (ZHOU-I) ZHOU B; (TRAN-N) TRANS TECH PHARMA
 COUNTRY COUNT: 94
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001079849	A2	20011025	(200202)*	EN	21
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE					
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG					
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ					
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN					
YU ZA ZW					
US 2001041349	A1	20011115	(200202)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001079849	A2	WO 2001-US12474	20010417
US 2001041349	A1	US 2000-197692P	20000417
		US 2001-836746	20010417

PRIORITY APPLN. INFO: US 2000-197692P 20000417; US 2001-836746
 20010417

AN 2002-017643 [02] WPIDS

AB WO 200179849 A UPAB: 20020109

NOVELTY - A spatially defined array (I) of protein expression systems, comprising a **substrate**, a **binding** surface which covers some or all of the **substrate** surface and a number of protein expression systems located at discrete positions on portions of the **substrate** covered by the **binding** surface, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) a micromachined **device** comprising (I);
- (2) a biosensor comprising the claimed array;
- (3) screening (M1) a number of proteins for their ability to interact with a component of a sample, comprising generating the claimed array and detecting interaction of the component with proteins expressed at specific positions comprising the protein expression systems;

09/784232

(4) detecting (M2) chemical or biological components immobilized on a solid phase by multidimensional spectroscopy using ion mobility and time of flight mass spectroscopy, comprising:

(a) recovering at least part of a chemical or biological mixture immobilized on a solid **substrate** as an electrospray;

(b) directing the electrospray to an ion mobility chamber which separates the constituents of the spray by size, ionic charge and shape; and

(c) analyzing the separated constituents which emerge from the chamber by time of flight spectroscopy; and

(5) computer-readable media comprising software code for performing the above **method**.

USE - The invention is used in biochemical research to screen new compound such as potential receptor ligands and small molecules.

ADVANTAGE - Unlike prior art arrays the protein does not need to be purified for array generation.

DESCRIPTION OF DRAWING(S) - Figure shows the array of the invention used in sequestering proteins. Panel A shows host cells expressing a soluble protein. B shows host cells expressing a protein with an affinity tag. C shows host cells expressing a membrane bound protein.

soluble protein 40

cells 42

wells 46,48

affinity tags 50

binding partner 42

expression array 46,48

Dwg.3/4

L13 ANSWER 5 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD

ACCESSION NUMBER: 2002-097393 [13] WPIDS

DOC. NO. NON-CPI: N2002-071996

DOC. NO. CPI: C2002-030253

TITLE: New integrated microscale biosensor that is microfluidic system with integrated elements, inlet-outlet ports and interface schemes, useful for **detecting pathogens**, e.g. foodborne *Listeria monocytogenes*.

DERWENT CLASS: A89 B04 D16 S05

INVENTOR(S): BASHIR, R; BHUNIA, A K; GOMEZ, R; LADISCH, M R; ROBINSON, J P; SARIKAYA, A

PATENT ASSIGNEE(S): (PURD) PURDUE RES FOUND

COUNTRY COUNT: 95

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
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WO 2001079529	A1	20011025	(200213)*	EN	81
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RW:	AT	BE	CH	CY	DE	DK	EA	ES	FI	FR	GB	GH	GM	GR	IE	IT	KE	LS	LU	MC
	MW	MZ	NL	OA	PT	SD	SE	SL	SZ	TR	TZ	UG	ZW							

W:	AE	AG	AL	AM	AT	AU	AZ	BA	BB	BG	BR	BY	BZ	CA	CH	CN	CO	CR	CU	CZ
	DE	DK	DM	DZ	EE	ES	FI	GB	GD	GE	GH	GM	HR	HU	ID	IL	IN	IS	JP	KE
	KG	KP	KR	KZ	LC	LK	LR	LS	LT	LU	LV	MA	MD	MG	MK	MN	MW	MX	MZ	NO
	NZ	PL	PT	RO	RU	SD	SE	SG	SI	SK	SL	TJ	TM	TR	TT	TZ	UA	UG	UZ	VN
	YU	ZA	ZW																	

US 2001053535	A1	20011220	(200213)		
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APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001079529	A1	WO 2001-US9745	20010326
US 2001053535	A1 Provisional	US 2000-197560P	20000417
		US 2001-817541	20010326

PRIORITY APPLN. INFO: US 2000-197560P 20000417; US 2001-817541
20010326

AN 2002-097393 [13] WPIDS

AB WO 200179529 A UPAB: 20020226

NOVELTY - A biosensor or integrated microscale biosensor, comprising a **substrate** microfabricated to include as integrated components detection chambers and channels, is new.

DETAILED DESCRIPTION - A biosensor or integrated microscale biosensor, comprising a **substrate** microfabricated to include as integrated components:

- (a) a detection chamber;
- (b) a first channel segment extending to an inlet of the detection chamber;
- (c) a second channel segment extending from an outlet of the chamber; and
- (d) a retention structure for holding, in the chamber, carrier elements entraining a target microbiological species while permitting passage through the detection chamber of contaminant materials in a fluid stream.

The integrated microscale biosensor may comprise a **substrate** microfabricated to include as integrated components:

- (a) a detection chamber;
 - (b) a channel extending to an inlet of the detection chamber;
- and
- (c) an inlet groove or trench substantially coplanar with the channel and the detection chamber, further comprising an elongate fluid delivery member having a downstream end disposed in the inlet groove or trench, the fluid delivery member being connected at the downstream end to inlet groove or trench so that at least the downstream end of the fluid delivery member is coplanar with the channel and the detection chamber.

INDEPENDENT CLAIMS are also included for the following:

- (1) detecting a microbiological substance comprising:
 - (a) providing the microfabricated biosensor chip including integrated detection elements;
 - (b) delivering a fluid sample to the biosensor chip;
 - (c) after the delivering of the fluid sample to the biosensor chip, separating at least some contaminants from the fluid sample to at least partially isolate and retain instances of a predetermined type of microbiological material on the biosensor chip, the separating of the contaminants taking place on the biosensor chip; and
 - (d) after the separating of contaminants from the fluid sample, operating the detection elements to determine whether the separated fluid sample contains microbiological material of the predetermined type;
- (2) manufacturing a biosensor comprising:
 - (a) providing a **substrate**;

- (b) processing the **substrate** to generate a detection chamber and a channel extending to the detection chamber;
- (c) further processing the **substrate** to provide at least one pair of electrodes in the detection chamber; and
- (d) exposing the processed **substrate** to bovine serum albumin (BSA) and avidin to adsorb the avidin to the electrodes in the presence of the BSA;
- (3) manufacturing a biosensor comprising:
 - (a) providing a **substrate**;
 - (b) processing the **substrate** to create a shallow detection chamber and a channel extending to the detection chamber;
 - (c) after the creation of the detection chamber and the channel, further processing the **substrate** to deposit at least one pair of electrodes in the detection chamber;
 - (d) after the deposition of the electrodes, further processing the **substrate** to create at least one deep groove at a periphery of the **substrate**, for receiving an elongate fluid delivery element, the channel communicating with the deep groove;
 - (e) inserting a downstream end of the fluid delivery element into the deep groove; and
 - (f) attaching the downstream end of the fluid delivery element to the deep groove;
- (4) detecting a microorganism comprising:
 - (a) preparing a fluid sample containing at least one microorganism of a preselected type, the fluid sample having a buffer of a low conductivity liquid, the fluid sample also containing a nonionic nutrient;
 - (b) disposing the fluid sample in a detection chamber having a volume less than 1 micro l;
 - (c) maintaining the fluid sample at a predetermined temperature in the detection chamber; and
 - (d) measuring an electrical parameter of an electrical circuit incorporating the detection chamber and the fluid sample in it; and
- (5) testing a food product for the presence of a predetermined type of pathogenic bacteria comprising:
 - (a) extracting a fluid sample from the food product;
 - (b) feeding the extracted fluid sample to an integrated microscale biosensor;
 - (c) subjecting the fluid sample to a bioseparations process to remove extraneous parties including proteins and kinds of bacteria other than the predetermined type of pathogenic bacteria;
 - (d) binding bacteria of the predetermined type in the fluid sample to at least one substrate body; and
 - (e) after the feeding of the extracted fluid sample to the chamber, the subjecting of the fluid sample to the bioseparations process, and the binding of the predetermined type of bacteria to the at least one substrate body, measuring an electrical parameter of an electrical circuit incorporating the detection chamber and the fluid sample to detect the presence in the fluid sample of living instances of the predetermined type of bacteria.

USE - The microscale biosensor is useful for detecting target biological substances including molecules and cells. The biosensor is useful for detecting if a microbiological substance is present in a fluid sample. The biosensor is particularly useful in methods for detecting pathogens, especially foodborne pathogens like *L. monocytogenes*. The biosensor is also useful for detecting or quantifying biological analytes that rely on ligand-specific binding

between a ligand and a receptor.

ADVANTAGE - Methods employing the present biosensor are able to detect pathogens in a few hours or less, possibly within minutes. The present biosensor also allows a sample of live bacteria to be distinguished from a sample of dead bacteria.

DESCRIPTION OF DRAWING(S) - The drawing shows a schematic top plan view of a biosensor.

Biochip 20

Silicon wafer substrate or body 22

Receptacles or grooves 24

Receptacles or grooves 26

Microbore tubes 28

Microbore tubes 30

Microscale channel or groove 32

Cavities or wells 34

Platinum electrodes 36

Bonding pads or electrical terminals 38

Conductors or traces 40

Glass cover 42.

Dwg.1/22

L13 ANSWER 6 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD

ACCESSION NUMBER: 2001-648404 [74] WPIDS

DOC. NO. NON-CPI: N2001-484493

DOC. NO. CPI: C2001-191336

TITLE: Detection of analytes in a sample useful to detect chemical and biological species in air and solution uses a three-dimensional array of a polydiacetylene backbone with a **substrate** incorporated and monitors changes in fluorescence.

DERWENT CLASS: A12 A89 B04 D16 S03

INVENTOR(S): REPPY, M A; SALLER, C F; SPORN, S A

PATENT ASSIGNEE(S): (ANAL-N) ANALYTICAL BIOLOGICAL SERVICES INC

COUNTRY COUNT: 94

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001071317	A1	20010927	(200174)*	EN	54
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE					
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG					
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ					
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN					
YU ZA ZW					
AU 2001050883	A	20011003	(200210)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001071317	A1	WO 2001-US8790	20010320
AU 2001050883	A	AU 2001-50883	20010320

FILING DETAILS:

PATENT NO	KIND	PATENT NO
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09/784232

AU 2001050883 A Based on WO 200171317

PRIORITY APPLN. INFO: US 2000-190091P 20000320

AN 2001-648404 [74] WPIDS

AB WO 200171317 A UPAB: 20011217

NOVELTY - An analyte is detected in a sample by contacting with a three-dimensional array (e.g. liposomes) of a polydiacetylene backbone which has a **substrate** incorporated which has affinity for the analyte, can function as a **binder** to the analyte or can react with the analyte; and detecting a change in fluorescence of the array.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) detecting an analyte as above but using a two-dimensional array (i.e. a film) of a polydiacetylene backbone incorporating a **substrate**, in which up to 90 % (optionally up to 60 %) of diacetylenes are terminated with groups specifically **binding** the analyte; and

(2) detecting an analyte as claimed but in which arrays are suspended in solution and analyte is detected by detecting change in polarization of the fluorescence of arrays when excited with polarized light.

USE - The **method** is useful to detect chemical and biological species in air and solution e.g. small organic molecules, solvents, toxins, enzymes, peptides, bacteria and viruses etc., useful in drug discovery, medical diagnosis, food safety, **pathogen detection**, environmental monitoring etc.
Dwg.0/5

L13 ANSWER 7 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD

ACCESSION NUMBER: 2001-602793 [68] WPIDS

CROSS REFERENCE: 2002-010605 [63]

DOC. NO. NON-CPI: N2001-449773

DOC. NO. CPI: C2001-178619

TITLE: Assaying a sample for a target polynucleotide or an amplification product using an encoded bead conjugate comprising a probe and a spectral code comprising a semiconductor nanocrystal, useful in pharmacogenetic testing and forensics.

DERWENT CLASS: B04 D16 L03 S03

INVENTOR(S): BRUCHEZ, M P; LAI, J H; PHILLIPS, V E; WATSON, A R; WONG, E Y

PATENT ASSIGNEE(S): (QUAN-N) QUANTUM DOT CORP

COUNTRY COUNT: 94

PATENT INFORMATION:

PATENT NO KIND DATE WEEK LA PG

WO 2001071043 A1 20010927 (200168)* EN 88

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN
YU ZA ZW

AU 2001050937 A 20011003 (200210)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001071043	A1	WO 2001-US9242	20010322
AU 2001050937	A	AU 2001-50937	20010322

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001050937	A Based on	WO 200171043

PRIORITY APPLN. INFO: US 2000-237000P 20000929; US 2000-191227P
20000322

AN 2001-602793 [68] WPIDS

CR 2002-010605 [63]

AB WO 200171043 A UPAB: 20020213

NOVELTY - A new **method** (M1) for assaying a sample for a target polynucleotide or an amplification product by contacting the sample with an encoded bead conjugate comprising a probe and a spectral code comprising a semiconductor nanocrystal. The **binding** between the probe and target polynucleotide results in a change in fluorescence characteristics of the bead which is measured.

DETAILED DESCRIPTION - A new **method** (M1) for assaying a sample for a target polynucleotide or an amplification product by contacting the sample with an encoded bead conjugate comprising a probe and a spectral code comprising a semiconductor nanocrystal. The **binding** between the probe and target polynucleotide results in a change in fluorescence characteristics of the bead which is measured.

In detail M1, comprises contacting the sample with an unlabelled probe polynucleotide attached to a **substrate**. The sample is suspected of containing the amplification product, and the amplification product comprises a first label and a capture sequence. The probe polynucleotide comprises first and second complementary regions and a third region located between the first and second complementary regions. The probe polynucleotide can form a stem-loop structure in which the first and second complementary regions hybridize to each other to form a stem and the third region forms a loop. At least a part of the third region is complementary to at least a part of the capture sequence, and the probe polynucleotide can preferentially hybridize to the amplification product and therefore disrupt formation of the stem-loop structure under at least one set of hybridization conditions. The **method** then determines if the first label is associated with the **substrate** to determine if the amplification product is present in the sample.

INDEPENDENT CLAIMS are included for the following:

(1) an amplification product assay complex comprising a **substrate** comprising an unlabelled probe polynucleotide hybridized to an amplification product from a target polynucleotide, where the amplification product comprises a capture sequence and a label, where the probe polynucleotide comprises first and second complementary regions and a third region located between the first and second complementary regions, and further where the probe

polynucleotide can form a stem-loop structure in which the first and second complementary regions hybridize to each other to form a stem and the third region forms a loop, where at least a part of the third region is hybridized to at least a part of the capture sequence, and where the stem-loop structure is not formed as a result of the probe polynucleotide being hybridized to the amplification product;

(2) a **method** of forming an amplification product assay complex;

(3) an amplification product assay array (A1);

(4) a kit comprising:

(a) a **substrate** attached to an unlabeled probe polynucleotide comprising first and second complementary regions and a third region located between the first and second complementary regions, where the probe polynucleotide can form a stem-loop structure in which the first and second complementary regions hybridize to each other to form a stem and the third region forms a loop, where at least a part of the third region is complementary to at least a part of a capture sequence of an amplification product from a target polynucleotide, where the unlabeled probe polynucleotide can preferentially hybridize to the amplification product and thereby disrupt formation of the stem-loop structure under at least one set of hybridization conditions;

(b) a reagent for incorporating a label into the amplification product;

(c) a housing for retaining the **substrate** and the reagent; and

(d) instructions provided with the housing that describe how to use the components of the kit to assay a sample for the amplification product; and

(5) an article of manufacture, comprising a **substrate** attached to an unlabeled probe polynucleotide, where the probe comprises first and second complementary regions and a third region located between the first and second complementary regions, and the probe can form a stem-loop structure in which the first and second complementary regions hybridize to each other to form a stem and the third region forms a loop.

USE - The **methods** are useful in pharmacogenetic testing, forensics, paternity testing and in screening for hereditary disorders. The **methods** are also useful for studying alterations of gene expression in response to a stimulus. Other applications include human population genetics, analyses of human evolutionary history, and characterization of human haplotype diversity. The **methods** can also be used to detect immunoglobulin class switching and hypervariable mutation of immunoglobulins, to **detect** polynucleotide sequences from contaminants or **pathogens** including bacteria, yeast and viruses, for HIV subtyping to determine the particular strains or relative amounts of particular strains infecting an individual and to detect single nucleotide polymorphisms, which may be associated with particular alleles or subsets of alleles.

The **methods** are also useful for mini-sequencing, and for detection mutations, including single nucleotide polymorphisms (SNPs), insertions, deletions, transitions, transversions, inversions, frame shifts, triplet repeat expansion, and chromosome rearrangements. The **methods** can be used to detect nucleotide sequences associated with increased risk of diseases or disorders, including cystic fibrosis, Tay-Sachs, sickle-cell anemia,

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etc.

ADVANTAGE - The methods are useful in multiple settings where different conjugates were used to assay for different target polynucleotides. The large number of distinguishable semiconductor nanocrystal labels allows for the simultaneous analysis of multiple labeled target polynucleotides, along with multiple different encoded bead conjugates.

The assay can be implemented in a homogenous format. This allows for higher assay throughput due to fewer manipulations of the sample and decreased cross-contamination resulting in more reliable assays and less downtime from cross-contamination.
Dwg.0/15

L13 ANSWER 8 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2001-616242 [71] WPIDS
CROSS REFERENCE: 2001-607195 [69]
DOC. NO. NON-CPI: N2001-459684
DOC. NO. CPI: C2001-184468
TITLE: New nucleic acid sensor molecule useful in diagnostic applications, nucleic acid-based electronics and functional genomics, comprises an enzymatic nucleic acid and one or more sensors.
DERWENT CLASS: B04 D16 T01
INVENTOR(S): BLATT, L; CHOWRIRA, B; HAEBERLI, P; MCSWIGGEN, J A; SEIWERT, S; USMAN, N; ZINNEN, S
PATENT ASSIGNEE(S): (RIBO-N) RIBOZYME PHARM INC
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001066721	A2	20010913	(200171)*	EN	115
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ					
DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE					
KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO					
NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ					
VN YU ZA ZW					
AU 2001043454	A	20010917	(200204)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001066721	A2	WO 2001-US7163	20010306
AU 2001043454	A	AU 2001-43454	20010306

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001043454	A Based on	WO 200166721

PRIORITY APPLN. INFO: US 2000-187128P 20000306
AN 2001-616242 [71] WPIDS
CR 2001-607195 [69]
AB WO 200166721 A UPAB: 20020117

NOVELTY - A nucleic acid sensor molecule (I) comprising an enzymatic nucleic acid component (EC) and one or more sensor components, is new.

DETAILED DESCRIPTION - In a nucleic acid sensor molecule (I), in response to an interaction of the target signaling agent with (I), EC catalyzes a chemical reaction involving covalent attachment of at least a portion of a reporter molecule (RM) to (I), carries out a chemical reaction involving isomerization of at least a portion of RM, or catalyses a phosphorylation or dephosphorylation reaction on a non-oligonucleotide-based portion of RM.

INDEPENDENT CLAIMS are also included for:

(1) a **method** involving contacting (I) and RM with a system under conditions suitable for EC to attach at least a portion of RM to (I) in the presence of a target signaling agent, to isomerize at least a portion of RM in the presence of target signaling agent, or to phosphorylate or dephosphorylate a non-oligonucleotide-based portion of RM in the presence of a target signaling agent, and assaying for the attachment of RM to (I), or assaying for the isomerization, phosphorylation or dephosphorylation reaction;

(2) a **method** involving contacting (I) which comprises EC comprising a **substrate binding** region and a catalytic region, and a sensor component comprising a nucleic acid sequence that, upon interacting with a complementary sequence in EC, inhibits the activity of EC, and RM comprising a nucleic acid sequence complementary to the **substrate binding** region of EC with a system under conditions suitable for EC to catalyze cleavage of RM or to catalyze a ligation reaction involving RM in the presence of a target signaling molecule, and assaying for the cleavage and assaying for cleavage or ligation reaction;

(3) a kit comprising (I) which comprises EC comprising a **substrate binding** region and a catalytic region, and a sensor component comprising a nucleic acid which inhibits the activity of EC upon interacting with a complementary sequence in EC, and RM cleavable by EC in the presence of target signaling molecule, where RM comprises a chemical moiety capable of emitting a detectable signal upon cleavage of RM;

(4) a kit comprising (I) comprising EC including one or more sensor components, and RM, where in response to an interaction of a target signaling molecule with (I), EC catalyzes a chemical reaction involving covalent attachment of at least a portion of RM to (I), carries out a chemical reaction involving isomerization of at least a portion of RM, or catalyses a chemical reaction involving phosphorylation or dephosphorylation of a non-oligonucleotide-based portion of RM;

(5) a **method** involving contacting one or more components of kit (3) or (4) with a system under conditions suitable for at least a portion of RM in (3) or (4) to be cleaved by (I) in the presence of a target molecule, or under conditions suitable for at least a portion of RM to be covalently attached to (I), isomerized by (I) or phosphorylated or dephosphorylated by (I) in the presence of a target signaling molecule;

(6) a nucleic acid circuit comprising (I) which comprises EC and one or more sensor components, where, in response to an interaction of a target signaling agent with (I), EC catalyzes a chemical reaction involving ligation or cleavage of at least a portion of a nucleic acid based-component;

(7) a nucleic acid computer comprising a nucleic acid

based-component;

(8) a **method** involving contacting a nucleic acid based-component with a target signaling agent under conditions suitable for (I) to ligate or cleave at least a portion of a nucleic acid based-component, and assaying the ligation or cleavage; and

(9) isolation of (I) involving contacting a random pool of nucleic acids with a target signaling molecule and a reporter molecule, and selecting for (I) that can catalyze a chemical reaction involving covalent attachment of at least a portion of RM to (I), ligation of at least a portion of RM to (I), or phosphorylation/dephosphorylation of a non-oligonucleotide-based portion of RM by (I), in the presence of the target signaling molecule.

USE - The computer is useful for detecting a target signaling agent or to provide desired output (claimed). (I) is useful in diagnostic applications to identify the presence of genes and/or gene products which are indicative of a particular genotype and/or phenotype, for e.g. a disease state, infection, or related condition within patients, and for diagnosis of disease states or physiological abnormalities related to the expression of viral, bacterial or cellular RNA and DNA. (I) is useful in nucleic acid-based electronics, including nucleic acid-based circuits and computers, as molecular switches, and as molecular sensors capable of modulating the activity, function or physical properties of other molecules. (I) is useful for the detection of specific target signaling molecules such as nucleic acid molecules, proteins, peptides, antibodies, polysaccharides, lipids, sugars, metals, microbial or cellular metabolites, analytes, pharmaceuticals, and other organic and inorganic molecules. (I) is useful in assays to assess the specificity, toxicity and effectiveness of various small molecules, nucleoside analogs, or non-nucleic acid drugs, or their doses against validated targets or biochemical pathways, in assays involved in high-throughput screening, biochemical assays, including cellular assays, in vivo animal models, clinical trial management, and for mechanistic studies in human clinical studies. (I) is useful for the **detection of pathogens**, biochemicals, for example proteins, organic compounds, or inorganic compounds, in humans, plants, animals, or samples from it, in connection with environmental testing or detection of biohazards and in functional genomics, target validation and discovery, agriculture or diagnostics, for example the diagnosis of disease, or the prevention or treatment of human or animal disease. (I) is useful for detection and/or amplification of specific target signaling agents, and target signaling molecule in a system, and in DNA computing applications and nucleic acid-based electronics utilized in nucleic acid computing applications.

Dwg.0/29

L13 ANSWER 9 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 2001-611185 [70] WPIDS
 DOC. NO. NON-CPI: N2001-456251
 DOC. NO. CPI: C2001-182519
 TITLE:

Detector for detecting a
 selected **pathogen** in a sample, comprises
 a **substrate** with a detection region on
 its surface, a blocking layer that blocks
 non-specific adsorption of pathogens, and a
binder that binds the selected

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pathogen.
DERWENT CLASS: A89 B04 D16 J04 S03
INVENTOR(S): ABBOTT, N L; SKAIFE, J J
PATENT ASSIGNEE(S): (WISC) WISCONSIN ALUMNI RES FOUND
COUNTRY COUNT: 93
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001061357	A2	20010823	(200170)*	EN	52
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE					
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG					
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ					
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU					
ZA ZW					
AU 2001043157	A	20010827	(200176)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001061357	A2	WO 2001-US4858	20010215
AU 2001043157	A	AU 2001-43157	20010215

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001043157	A Based on	WO 200161357

PRIORITY APPLN. INFO: US 2000-182941P 20000216

AN 2001-611185 [70] WPIDS

AB WO 200161357 A UPAB: 20011129

NOVELTY - A detector (20) (I) for **detecting** the presence of a selected **pathogen** (II), comprises a **substrate** (S) with a detection region (DR) on its surface, where DR has microstructures comprising grooves that align liquid **crystal** material (LCM), a blocking layer on DR that does not disrupt the alignment of LCM but blocks non-specific adsorption of (II) on its surface, and a **binder** that **binds** (II), on DR.

DETAILED DESCRIPTION - A detector (20) comprises:

(a) a **substrate** (21) (S) with DR (23) on its surface, DR having microstructures comprising grooves formed in it, that will align LCM in contact with it, where the width and depth of the grooves (26) are in the range of 10 micro m or less;

(b) a blocking layer (BL) on the surface of DR that does not disrupt the alignment of LCM in contact with it, BL blocking non-specific adsorption of (II) to the surface; and

(c) a **binder** (B) on the surface of DR, that specifically **binds** to (II).

INDEPENDENT CLAIMS are also included for the following:

(1) detecting the presence of (II) in a sample, by providing (S) having DR comprising a surface comprising microstructures including depressions of width and depth sized to align LCM in contact with it, where the depressions are of a size sufficient to be occupied by (II), and treating the surface of DR to provide a

layer on it that blocks non-specific **binding** of (II) to the surface and including (B) that specifically **binds** (II) to be detected; and

(2) a kit for use in the detection of (II) in a sample, comprising (S), BL, (B) and LCM, that will be aligned when in contact with DR in the absence of (II) bound to DR.

USE - (I) is useful for detecting the presence of a selected microscopic pathogen, e.g. a virus or bacteria, in a sample, by providing a **substrate** having DR comprising a surface comprising microstructures including depressions of width and depth sized to align LCM, the surface of DR treated to block non-specific **binding** of pathogens to the surface and having (B) that specifically **binds** the selected **pathogen** to be **detected**, applying a sample to be tested for the presence of the specific pathogen to the surface of DR and applying LCM to DR that will be aligned by the microstructures on the surface of the **substrate** in the absence of **binding** particles of the pathogen to the surface of the **substrate**, where the presence of selected pathogen in the sample will be manifested by a visually observable disordering of LCM caused by the pathogen particles bound to the **substrate** in the depressions (claimed).

ADVANTAGE - Microscopic **pathogens** are **detected** in a simple and efficient manner. The **pathogen** can be **detected** by personnel who have minimal training, and without requiring specialized laboratory facilities or equipment. Detection is provided with accurate readout in a manner that is faster than conventional serological tests. It is possible to **screen** for multiple microscopic **pathogens** in a single test. The **method** can be embodied in an addressable microarray, allowing the sample from a patient or from the environment to be simultaneously probed for a very broad spectrum of pathogenic agents. Moreover, by immobilizing antibodies to viral, rickettsial and bacterial surface proteins, it is possible to identify tissue targets and routes of entry of weaponized recombinant organisms faster than genetic analysis. The **apparatus** may also serve as a pre-screening front-end to more complex **devices** with embedded cells capable of detecting both biological and chemical agents.

DESCRIPTION OF DRAWING(S) - The figure shows the **detector** for **detecting** the selected **pathogen** in a sample.

Detector 20

Substrate 21

Detection region 23

Ridges 25

Grooves 26

Dwg.1/19

L13 ANSWER 10 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 2001-638841 [73] WPIDS
 DOC. NO. NON-CPI: N2001-477550
 DOC. NO. CPI: C2001-188898
 TITLE: **Apparatus**, useful for electrical detection of bacterial cells, comprises **substrate**, microelectrodes, linkers, counter-electrode, means for producing electrical signal, detector and electrolyte solution.

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DERWENT CLASS: A89 B04 D16 S03
INVENTOR(S): CHOONG, V; LI, C; SAWYER, J R
PATENT ASSIGNEE(S): (MOTI) MOTOROLA INC
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001057533	A2	20010809	(200173)*	EN	54
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2001036625	A	20010814	(200173)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001057533	A2	WO 2001-US3412	20010201
AU 2001036625	A	AU 2001-36625	20010201

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001036625	A Based on	WO 200157533

PRIORITY APPLN. INFO: US 2000-495992 20000201

AN 2001-638841 [73] WPIDS

AB WO 200157533 A UPAB: 20011211

NOVELTY - An **apparatus** (I) for electrical detection of bacterial cells in a sample mixture, comprising a supporting **substrate** (S), microelectrodes (M) in contact with (S), linking groups (L) and at least one counter-electrode (CE) in contact with (M), a means for producing an electrical signal at (M), a detector for detecting changes in electrical signal and electrolyte solution in contact with (M), (L) and CE, is new.

DETAILED DESCRIPTION - (I) comprising (S), one or a number of microelectrodes (M) in contact with (S), one or a number of linking groups (L) in contact with (M) and to which specific **binding** molecules have been immobilized, at least one counter-electrode (CE) in electrochemical contact with (M), a means for producing an electrical signal at each (M), a means for detecting changes in the electrical signal at each (M), and an electrolyte solution in contact with (M), (L) and CE, where bacterial cells in the sample mixture are detected by detecting a difference in the electrical signal at each (M) in the presence and absence of the sample mixture in contact with (M), is new.

INDEPENDENT CLAIMS are also included for the following:

(1) electrical detection of bacterial cells in a sample mixture, comprising:

(a) detecting an electrical signal (E1) in one or a number of microelectrodes in contact with (L) to which specific **binding** molecules have been immobilized;

(b) exposing (M) to a sample mixture containing bacterial cells;
 (c) detecting an electrical signal (E2) in one or a number of microelectrodes;
 (d) comparing E2 with E1; and
 (e) determining whether E2 is different from E1;
 (2) electrical detection of viable bacterial cells in a sample mixture, comprising:
 (a) exposing one or a number of microelectrodes in contact with (L) to which specific **binding** molecules have been immobilized to a sample mixture containing bacterial cells;
 (b) detecting electrical signal (E1) in (M);
 (c) killing the bacteria in the sample mixture exposed to (M);
 (d) detecting an electrical signal (E2) in (M);
 (e) comparing E2 with E1; and
 (f) determining whether E1 is different from E2; and
 (3) electrical detection of bacterial cells of a particular bacterial species, subspecies or strain in a sample mixture, comprising:
 (a) detecting an electrical signal (E1) in one or a number of microelectrodes in contact with (L) to which specific **binding** molecules have been immobilized, where the specific **binding** molecules have a specificity for the bacterial cells of a particular bacterial species, subspecies or strain to be detected;
 (b) exposing (M) with a sample mixture containing bacterial cells of a particular species, subspecies or strain;
 (c) detecting an electrical signal (E2) in (M);
 (d) comparing E2 with E1; and
 (e) determining whether E2 is different from E1.
 USE - (I) is useful for electrical detection of bacterial cells in a sample mixture, electrical detection of viable bacterial cells in a sample mixture and electrical detection of bacterial cells of a particular bacterial species, subspecies or strain in a sample mixture (claimed). The **method** is useful for disease diagnostics, environmental studies, food safety analysis and **pathogen detection**.

ADVANTAGE - The **method** is an inexpensive, reliable and safe alternative to current bacterial detection **methods**

DESCRIPTION OF DRAWING(S) - The figure shows the schematic representation of the structure of a microelectrode in contact with a polyacrylamide gel linker moiety.

Glass capillary tube 1
 Ultra fine platinum wire 2
 Transition wire 3
 Hookup wire 4
 Epoxy plug 5
 Soldered 6
 Polyacrylamide gel material 7
 1A, 1B/7

L13 ANSWER 11 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 2001-483277 [52] WPIDS
 CROSS REFERENCE: 2001-581655 [50]
 DOC. NO. NON-CPI: N2001-357690
 DOC. NO. CPI: C2001-144968
 TITLE: Waveguide plate, useful in sensors for determining

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many biological analytes, has, on the waveguide surface, a large coupling grating with very precise coupling angle.

DERWENT CLASS: B04 D16 J04 S03
INVENTOR(S): DUVENECK, G; EDLINGER, J; HEINE, C; MAISENHOELDER, B; PAWLAK, M
PATENT ASSIGNEE(S): (ZEPT-N) ZEPTOSENS AG
COUNTRY COUNT: 91
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001055691	A2	20010802	(200152)*	GE	39
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM					
EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ					
LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU					
SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2001037339	A	20010807	(200174)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001055691	A2	WO 2001-EP782	20010125
AU 2001037339	A	AU 2001-37339	20010125

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001037339	A Based on	WO 200155691

PRIORITY APPLN. INFO: CH 2000-160 20000127

AN 2001-483277 [52] WPIDS

CR 2001-581655 [50]

AB WO 200155691 A UPAB: 20011217

NOVELTY - Waveguide plate (A) comprises a glass **substrate** (1) coated with a waveguide layer (2) and, on the surface carrying (2), at least one coupling grating, formed as a line grating with periodicity 150-1000 nm and extending, in parallel lines, at least 5 cm.

DETAILED DESCRIPTION - Waveguide plate (A) comprises a glass **substrate** (1) coated with a waveguide layer (2) and, on the surface carrying (2), at least one coupling grating, formed as a line grating with periodicity 150-1000 nm and extending, in parallel lines, at least 5 cm. The coupling angle (theta) changes by at most 0.1 deg. /cm, along the line, and the absolute value of the deviation of theta from its rated value on the plate is not over 0.5 deg. .

INDEPENDENT CLAIMS are also included for the following:

(a) sensor platform (B) that includes (A);

(b) arrangement (C) of sample containers, including (A) or (B) as base plate; and

(c) **method** for simultaneous qualitative or quantitative determination of many analytes using (A), (B) or (C).

USE - (A) are used as components of sensors for performing,

simultaneously or sequentially, multiple quantitative or qualitative biological assays, e.g. for antigens, antibodies, nucleic acids, enzymes etc. in biological samples, water etc. Typical of many applications are in drug screening; combinatorial chemistry; **binding** studies; toxicity determinations; determination of gene/protein expression profiles; human and veterinary diagnosis; **detection of pathogens** and pollutants etc.

ADVANTAGE - The use of large, very precise gratings allows rapid analysis with reduced effort, especially no system adjustments have to be made between sequential measurements.
Dwg.0/3

L13 ANSWER 12 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2001-476108 [51] WPIDS
DOC. NO. CPI: C2001-142807
TITLE: New ERA **binding** domain polypeptides and polynucleotides encoding them, useful as research reagents and materials for discovery of treatments and diagnostics for diseases, or for genetic immunization.
DERWENT CLASS: B04 D16
INVENTOR(S): LUPAS, A N; PEARCE, K H
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 21
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001053458	A2	20010726	(200151)*	EN	279
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR					
W: JP US					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001053458	A2	WO 2001-US1786	20010117

PRIORITY APPLN. INFO: US 2000-176870P 20000118

AN 2001-476108 [51] WPIDS

AB WO 200153458 A UPAB: 20010910

NOVELTY - An isolated polypeptide (I) comprising a sequence that is either at least 70-95% identical to, comprising or having a fully defined sequence comprising an ERA **binding** domain given in the specification, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated polynucleotide comprising a sequence:

(a) encoding a polypeptide having at least 70-95% identity to an amino acid sequence comprising an ERA **binding** domain sequence fully given in the specification;

(b) encoding a polypeptide having at least 70-95% identity to a nucleotide sequence encoding (I);

(c) having at least 70-95% identity to that of a polynucleotide encoding a polypeptide comprising an ERA **binding** domain sequence given in the specification;

(d) encoding a polypeptide comprising an ERA **binding** domain sequence given in the specification; or

(e) obtained by screening a library under stringent hybridization conditions with a labeled probe having the sequence of a polynucleotide encoding a polypeptide comprising an ERA **binding** domain sequence given in the specification;

(2) an antibody immunospecific for (I);

(3) a **method** for treating an individual:

(a) in need of enhanced activity or expression of (I) by administering to the individual an agonist of (I) or providing to the individual an isolated polynucleotide by producing the polypeptide activity in vivo; or

(b) having the need to inhibit activity or expression of (I) by administering an antagonist of (I), a nucleic acid that inhibits the expression of a nucleotide sequence encoding (I), a nucleic acid that inhibits the expression of a nucleotide sequence encoding (I), and/or a polypeptide that competes with the polypeptide for its ligand, **substrate** or receptor;

(4) a process for diagnosing a disease or a susceptibility to a disease related to expression or activity of (I), in an individual by determining the presence of a mutation in the nucleotide sequence encoding the polypeptide in the genome of the individual, and/or analyzing for the presence or amount of the polypeptide expression in a sample derived from the individual;

(5) a **method** for screening to identify compounds that activate and/or that inhibit the function of (I);

(6) an agonist or an antagonist of the activity or expression of (I);

(7) an expression system comprising the polynucleotide capable of producing (I) when present in a compatible host cell;

(8) a host cell comprising the expression system of (7) or a cell membrane expressing (I);

(9) a process for producing (I) by culturing the host cell of (8) under conditions for the production of (I);

(10) a process for producing a host cell of (8) by transforming or transfecting a cell with the expression system of (7) under conditions allowing the production of (I); and

(11) a host cell produced by the process of (10).

ACTIVITY - Antimicrobial; antibacterial.

Experimental protocols are described but no results were given.

MECHANISM OF ACTION - Vaccine; peptide therapy.

USE - The polynucleotides and polypeptides may be employed:

(a) as research reagents and materials for discovery of treatments and diagnostics for diseases, particularly human diseases;

(b) as immunogens to produce antibodies immunospecific for such polypeptides or polynucleotides;

(c) for genetic immunization;

(d) to configure screening **methods** for detecting the effect of added compounds on the production of mRNA and/or polypeptide in cells;

(e) in the structure-based design of an agonist, antagonist or inhibitor of the polypeptide to polynucleotide;

(f) to interfere with the initial physical interaction between a pathogen and a eukaryotic host;

(g) in the prevention of adhesion of bacteria to eukaryotic extracellular matrix proteins on in-dwelling devices or in wounds;

(h) to block ERA binding domain protein-mediated mammalian cell

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invasion; to block bacterial adhesion between eukaryotic, preferably extracellular matrix proteins and bacterial ERA binding domain proteins that mediate tissue damage; and/or

(i) to block normal progression of pathogenesis in infections initiated other than by implantation of in-dwelling devices or by other surgical techniques.

The polypeptides may be used:

(a) to identify membrane bound or soluble receptors;
(b) as a target for the screening of antibacterial drugs; and
(c) as antigens for vaccination of a host to produce antibodies against bacteria.

The polynucleotides may be used:

(a) as hybridization probes for RNA, cDNA and genomic DNA to isolate full-length cDNAs and genomic clones encoding ERA binding domain;

(b) to isolate cDNA and genomic clones of other genes having high sequence identity to the ERA binding domain gene;

(c) for chromosome identification; and in the discovery and development of antibacterial compounds.

Dwg.0/0

L13 ANSWER 13 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2001-451868 [48] WPIDS
CROSS REFERENCE: 2001-061976 [07]; 2001-656926 [66]
DOC. NO. CPI: C2001-136537
TITLE: Detecting a nucleic acid useful in e.g. diagnosing genetic, bacterial or viral diseases, by contacting the nucleic acid with oligonucleotides attached to nanoparticles and having sequences complementary a portion of the nucleic acid.
DERWENT CLASS: B04 D16
INVENTOR(S): ELGHANIAN, R; LETSINGER, R L; LI, Z; MIRKIN, C A; MUCIC, R C; STORHOFF, J J; TATON, T A
PATENT ASSIGNEE(S): (NANO-N) NANOSPHERE INC
COUNTRY COUNT: 93
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG

WO 2001051665	A2	20010719	(200148)*	EN	229
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE					
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG					
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ					
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU					
ZA ZW					
AU 2001032795	A	20010724	(200166)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE

WO 2001051665	A2	WO 2001-US1190	20010112
AU 2001032795	A	AU 2001-32795	20010112

FILING DETAILS:

Searcher : Shears 308-4994

PATENT NO	KIND	PATENT NO
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AU 2001032795	A Based on	WO 200151665

PRIORITY APPLN. INFO: US 2001-760500 20010112; US 2000-176409P
 20000113; US 2000-200161P 20000426; US
 2000-603830 20000626

AN 2001-451868 [48] WPIDS
 CR 2001-061976 [07]; 2001-656926 [66]
 AB WO 200151665 A UPAB: 20011227

NOVELTY - Detecting a nucleic acid having at least 2 portions, comprises contacting the nucleic acid with one or more types of nanoparticles having oligonucleotides attached to the nanoparticles and having sequences complementary to portions of the sequence of the nucleic acid.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) **methods** of detecting a nucleic acid having at least 2 portions comprising:

(a) contacting the nucleic acid with one or more types of nanoparticles having oligonucleotides attached to the nanoparticles and having sequences complementary to portions of the sequence of the nucleic acid, under conditions allowing the hybridization of the oligonucleotides on the nanoparticles with the nucleic acid; and

(b) observing a detectable change brought about by hybridization of the oligonucleotides on the nanoparticles with the nucleic acid;

(2) kits comprising at least one container holding a composition containing at least 2 types of nanoparticles having oligonucleotides attached to it, where the first type has a sequence complementary to the sequence of a first portion of a nucleic acid, and the oligonucleotides on the second type of nanoparticles has a sequence complementary to the sequence of a second portion of the nucleic acid;

(3) an aggregate probe comprising at least 2 types of nanoparticles having oligonucleotides attached to it, the nanoparticles of the aggregate probe are bound to each other as a result of the hybridization of some of the oligonucleotides attached to them, and at least one of the nanoparticles of the aggregate probe having oligonucleotides attached to it which have a hydrophobic group on the end not attached to the nanoparticles;

(4) a kit comprising a container holding a core probe having at least 2 types of nanoparticles having oligonucleotides attached to it and the nanoparticles of the core probe is bound to each other as a result of the hybridization of some of the oligonucleotides attached to them;

(5) a core probe comprising at least 2 types of nanoparticles having oligonucleotides attached to it;

(6) a **substrate** having nanoparticles attached to it;

(7) a metallic or semiconductor nanoparticle having oligonucleotides attached to it which are labeled with fluorescent molecule at the end not attached to the nanoparticle;

(8) a satellite probe comprising a particle having attached oligonucleotides, and probe oligonucleotides hybridized to the oligonucleotides attached to the nanoparticles;

(9) **methods** of nanofabrication;

(10) nanomaterials or nanostructures composed of nanoparticles having oligonucleotides attached to it and being held by

oligonucleotide connectors;

(11) a composition comprising at least 2 types of nanoparticles having oligonucleotides attached to it;

(12) an assembly of containers holding nanoparticles having oligonucleotides attached to them;

(13) a nanoparticle having multiple oligonucleotides attached to it;

(14) a **method** of separating a selected nucleic acid having at least 2 portions from other nucleic acid;

(15) **methods** of **binding** oligonucleotides to charged nanoparticles to produce stable nanoparticle-oligonucleotide conjugates;

(16) nanoparticle-oligonucleotide conjugates which are nanoparticles having oligonucleotides attached to them, where the oligonucleotides are present on the surface of the nanoparticles at a surface density sufficient so that the conjugates are stable, and at least some of the oligonucleotides have sequences complementary to at least one portion of the nucleic acid or oligonucleotide sequence;

(17) nanoparticles having oligonucleotides attached to them which comprises at least one type of recognition oligonucleotides having a sequence complementary to a portion of the nucleic acid sequence, and a type of diluent oligonucleotides; and

(18) **methods** of detecting a nucleic acid.

USE - The **methods** are useful for detecting nucleic acids, natural or synthetic, and modified or unmodified. The **methods** may also be applied in the diagnosis of genetic, bacterial and viral diseases, in forensics, in DNA sequencing, for paternity testing, for cell line authentication, and for monitoring gene therapy. The **methods** are further useful in research and analytical laboratories in DNA sequencing, in the field to **detect** the presence of specific **pathogens**, for quick identification of an infection to assist in drug prescription, and in homes and health centers for inexpensive first-line screening.

ADVANTAGE - The **methods**, which are based on observing color change with the naked eye, are cheap, fast, simple, robust (reagents are stable), do not require specialized or expensive equipment, and little or no instrumentation is required.
Dwg.0/46

L13 ANSWER 14 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 2001-398175 [42] WPIDS
 DOC. NO. CPI: C2001-121143
 TITLE: **Apparatus** for performing biological reactions, comprises a **substrate** containing surfaces for positioning array of biomolecules, flexible layer and port which extends from a second surface.
 DERWENT CLASS: B04 D16 J04
 INVENTOR(S): HAWKINS, G W
 PATENT ASSIGNEE(S): (MOTI) MOTOROLA INC
 COUNTRY COUNT: 94
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001044515	A2	20010621	(200142)*	EN	51

09/784232

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN
YU ZA ZW
AU 2001032641 A 20010625 (200162)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001044515	A2	WO 2000-US34145	20001215
AU 2001032641	A	AU 2001-32641	20001215

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001032641	A Based on	WO 200144515

PRIORITY APPLN. INFO: US 2000-605766 20000628; US 1999-464490
19991215

AN 2001-398175 [42] WPIDS

AB WO 200144515 A UPAB: 20010726

NOVELTY - **Apparatus** for performing biological reactions, comprises a **substrate** (11) containing surfaces (12,13). An array of biomolecules, positioned on the surface and a flexible layer (16) affixed to surface (12) by an adhesive layer (15), to create a reaction volume. A port (19) extends from surface (13) to the reaction volume.

USE - The **apparatus** is useful for performing a nucleic acid hybridization reaction used to identify **pathogens**, diagnose disease states, and forensic **determination** using gene sequences specific for a desired purpose.

ADVANTAGE - The **apparatus** enables performing of high capacity biological reactions. The **apparatus** comprises geometries that eliminate corners, therefore bubble formation is prevented, thus reducing frequency of non-specific **binding** and artifactual signals detected by the scanner. A thin flexible layer is contacted adjacent to a biochip present in the **apparatus**, thereby reducing or eliminating free surface reflection, internal reflection of illumination from scanner and dispersion or scattering of illuminated light, thereby optimizing the amount of incident light that illuminates array. This arrangement is also more economical than existing **apparatus**, as it minimizes need for highly polished low scattering surfaces or complex or expensive lenses, and eliminates problems associated with focus and depth-of-field in more complex optical detectors.

DESCRIPTION OF DRAWING(S) - The figure shows cross-sectional view of the **apparatus**.

Substrate 11

Surfaces 12,13

Adhesive layer 15

Flexible layer 16

Port 19

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Dwg.1/13

L13 ANSWER 15 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2001-408460 [43] WPIDS
DOC. NO. NON-CPI: N2001-302261
DOC. NO. CPI: C2001-123681
TITLE: Flow cell array for multi-analyte determination,
e.g. for drug research or food analysis, has base
plate and attached bodies with channels between,
forming flow cells with an inlet and an outlet
leading to a liquid reservoir.
DERWENT CLASS: A89 B04 C07 D13 D16 J04 S03
INVENTOR(S): ABEL, A P; BOPP, M A; DUVERNECK, G L; EHRAT, M;
KRESBACH, G M; PAWLAK, M; SCHAEERER-HERNANDEZ, N G;
SCHICK, E; SCHUERMAN-MADER, E
PATENT ASSIGNEE(S): (ZEPT-N) ZEPTOSENS AG
COUNTRY COUNT: 91
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001043875	A1	20010621	(200143)*	GE	75
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM					
EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ					
LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU					
SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2001020094	A	20010625	(200162)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001043875	A1	WO 2000-EP12668	20001213
AU 2001020094	A	AU 2001-20094	20001213

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001020094	A Based on	WO 200143875

PRIORITY APPLN. INFO: CH 2000-534 20000321; CH 1999-2316
19991217

AN 2001-408460 [43] WPIDS
AB WO 200143875 A UPAB: 20010801
NOVELTY - An arrangement of sample containers comprising a base
plate (A) and an attached body (B) with channels between (A) and (B)
arranged so as to form liquid-tight flow cell(s) with inlet(s) and
outlet(s), in which at least one outlet from each flow cell leads to
a reservoir which receives the liquid from the cell.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included
for:
(a) an analytical system for the determination of analyte(s),
with an array as described above, arrangements for feeding samples
or reagents to the sample containers in a locally-addressed fashion
and detector(s) for detecting changes in measured parameters,

preferably optical, electrical, electrochemical or thermal quantities or a radioactive signal;

(b) an analytical system for the determination of luminescence(s), with an array and feed system as above, light source(s) for excitation and detector(s) for the light emitted from one or more areas on the sensor platform;

(c) a system for the determination of analyte(s), with an array and feed system as above, light source(s) for excitation and detector(s) for measuring a change in optical parameters, preferably refractive index (RI) and/or luminescence in the vicinity of the analyte(s);

(d) production of a 1- or 2-dimensional array as above by assembling the base plate and attached bodies in such a way as to form a fluid-tight seal between adjacent grooves; and

(e) detection of analytes in liquid samples with these arrangements and systems, in which samples and optionally other reagent liquids are fed into the sample containers and then flow out into a reservoir connected to the flow cell and forming a component of the sample container.

USE - For the determination of chemical, biochemical or biological analytes in screening processes for pharmaceutical research, combinatorial chemistry, clinical and preclinical development, real-time **binding** studies, kinetic parameters in affinity screening and research, DNA and RNA analysis and the determination of genomic and proteomic differences in the genome, e.g. single nucleotide polymorphism, measurement of protein-DNA interactions, determination of control mechanisms for m-RNA expression and protein (bio)synthesis, toxicity studies, determination of expression studies, especially for the determination of biological and chemical markers, e.g. mRNA, proteins, peptides or low-mol. wt. organic (messenger) substances, for the **detection** of antibodies, antigens, **pathogens** or bacteria in drug R and D, human and veterinary diagnostics, agrochemicals R and D, symptomatic and presymptomatic plant diagnostics and patient stratification in pharmaceutical product development, for therapeutic medicament selection and for the **detection** of **pathogens**, pollutants and irritants, especially salmonella, prions, viruses and bacteria, particularly in foods and the environment (claimed).

ADVANTAGE - An analytical system with a simple array of flow cells, enabling rapid and accurate multi-analyte determination with very small liquid samples of a very wide range of analyte types without evaporation and loss of accuracy.

DESCRIPTION OF DRAWING(S) - Cross-section of flow cell arrangement.

sample inlet; 1
sample outlet; 2
recess (channel); 3
base plate; 4
reservoir; 5
body part 6
Dwg.1/5

L13 ANSWER 16 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2001-282093 [29] WPIDS
DOC. NO. NON-CPI: N2001-201034
DOC. NO. CPI: C2001-086026
TITLE: Detection of antibodies in samples useful e.g. to

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measure antibody levels in serum to diagnose disease, determine vaccination efficiency or detect antibodies to recombinant proteins, by inhibition enzyme linked immunosorbant assay.

DERWENT CLASS: B04 D16 S03
INVENTOR(S): ABRAMS, M A
PATENT ASSIGNEE(S): (PHAA) PHARMACIA CORP
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001027621	A2	20010419	(200129)*	EN	43
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE					
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG					
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ					
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN					
YU ZA ZW					
AU 2000078255	A	20010423	(200147)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001027621	A2	WO 2000-US21992	20001002
AU 2000078255	A	AU 2000-78255	20001002

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2000078255	A Based on	WO 200127621

PRIORITY APPLN. INFO: US 1999-158090P 19991007

AN 2001-282093 [29] WPIDS

AB WO 200127621 A UPAB: 20010528

NOVELTY - Antibodies in a sample are detected using a new type of enzyme linked immunosorbant assay (ELISA) termed an inhibition enzyme linked immunosorbant assay (iELISA), in which purified labeled antigen and a test sample comprising an antibody are incubated with a surface coated with a purified second antibody, and antigen-binding inhibition is measured.

DETAILED DESCRIPTION - Detecting (M1) a first antibody in a sample comprises:

- coating a **binding** surface/support with a purified second antibody to form an antibody-coated surface;
- combining a predetermined amount of a purified labeled antigen and the test sample containing the first antibody;
- adding to the antibody-coated surface;
- incubating; and
- measuring antigen-binding inhibition.

An INDEPENDENT CLAIM is also included for a test kit for use with (M1), comprising an insoluble **binding** surface/support with a purified second antibody bound to it, a purified and labeled antigen specifically **binding** to and saturating the second antibody and optionally washing reagents, incubating reagents and

label substrate.

USE - The **method** is useful to detect antibodies in samples, especially in serum from mammals, especially humans (claimed), useful e.g. to screen for elevated concentrations of endogenous antibodies to known pathogens to diagnose disease, to test sera from vaccinated humans/other animals to determine whether titers are sufficient to give protection against infection, or to detect endogenous antibodies against recombinant proteins (e.g. therapeutic proteins) which could have a neutralizing effect on the drug and drug target. It also enables detection of exogenous antibodies, useful e.g. to evaluate efficacy in disease treatment, and detection of antibodies other sample media e.g. tissue culture media, purification samples, biological fluids such as urine and saliva. The kits are especially useful for field detection of serum antibody levels, useful e.g. epidemiologically to **determine** particular species infected by a **pathogen** and/or rates of spread.

ADVANTAGE - Sensitivity of antibody measurements is increased relative to previous immunoassay **techniques** by eliminating background interference associated with **binding** of non-specific immunoglobulin. The **method** also increases specificity and reduces assay time and labor by incubating purified second antibody and labeled antigen simultaneously with test serum, therefore eliminating the secondary detection step normally required.

Dwg.0/9

L13 ANSWER 17 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 2001-244826 [25] WPIDS
 DOC. NO. CPI: C2001-073497
 TITLE: Novel linear isothermal nucleic acid amplification of polynucleotide sequences by using single RNA/DNA composite primer, which forms basis for amplification of target sequence and optionally a termination sequence.
 DERWENT CLASS: B04 D16
 INVENTOR(S): KURN, N
 PATENT ASSIGNEE(S): (NUGE-N) NUGEN TECHNOLOGIES INC; (KURN-I) KURN N
 COUNTRY COUNT: 94
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001020035	A2	20010322	(200125)*	EN	115
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE					
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG					
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ					
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN					
YU ZA ZW					
US 6251639	B1	20010626	(200138)		
AU 2000074835	A	20010417	(200140)		
US 2001034048	A1	20011025	(200170)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
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Searcher : Shears 308-4994

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WO 2001020035 A2	WO 2000-US25104	20000913
US 6251639 B1 Provisional	US 1999-153604P	19990913
Provisional	US 2000-175780P	20000112
	US 2000-660877	20000913
AU 2000074835 A	AU 2000-74835	20000913
US 2001034048 A1 Provisional	US 1999-153604P	19990913
Provisional	US 2000-175780P	20000112
Cont of	US 2000-660877	20000913
	US 2001-870433	20010529

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2000074835 A	Based on	WO 200120035
US 2001034048 A1	Cont of	US 6251639

PRIORITY APPLN. INFO: US 2000-175780P 20000112; US 1999-153604P
19990913; US 2000-660877 20000913; US
2001-870433 20010529

AN 2001-244826 [25] WPIDS

AB WO 200120035 A UPAB: 20010508

NOVELTY - Amplifying (I) polynucleotide (PN) sequence complementary to target PN sequence (T) is new.

DETAILED DESCRIPTION - (I) comprises:

(1) hybridizing a single stranded DNA template comprising the target sequence with a composite primer comprising an RNA portion and a 3' DNA portion;

(2) optionally hybridizing a polynucleotide comprising a termination polynucleotide sequence to a region of the template which is 5' with respect to hybridization of the composite primer to the template;

(3) extending the composite primer with DNA polymerase;

(4) cleaving the RNA portion of the annealed composite primer with an enzyme that cleaves RNA from an RNA/DNA hybrid such that another composite primer can hybridize to the template and repeat primer extension by strand displacement where multiple copies of the complementary sequence of the target sequence are produced.

INDEPENDENT CLAIMS are also included for the following:

(1) amplifying (II) a target polynucleotide sequence comprising:

(a) Steps (1)-(4) of (I); and

(b) hybridizing a polynucleotide comprising a propromoter and a region which hybridizes to the displaced primer extension product under conditions which allow transcription to occur by RNA polymerase, such that RNA transcripts are produced comprising sequences complementary to the displaced primer extension products, where multiple copies of the target sequence are produced;

(2) characterizing (III) a sequence of interest in a target polynucleotide comprising conducting the **methods** (I) and (II) where the sequence of an RNA portion of the composite primer is known and where:

(a) production of detectably fewer amplification products from the template as compared to the amount of amplification products from a reference template which comprises a region complementary to the RNA portion of the composite primer indicates that the target polynucleotide does not comprise a sequence complementary to the RNA

portion of the composite primer and is a sequence variant with respect to the sequence complementary to the RNA portion of the composite primer; or

(b) production of detectably more amplification products from the template as compared to the amount of amplification products from a reference template which does not comprise a region which is complementary to the RNA portion of the composite primer indicates that the target polynucleotide comprises a sequence complementary to the RNA portion of the composite primer and is not a sequence variant with respect to the sequence complementary to the RNA portion of the composite primer;

(3) sequencing a target nucleotide sequence comprising:

(a) Steps (1) and (2) of (I);

(b) extending the composite primer to a termination site with DNA polymerase and a mixture of dNTPs and dNTP analogs, such that primer extension is terminated upon incorporation of a dNTP analog;

(c) cleaving the RNA portion of the annealed composite primer with an enzyme that cleaves RNA from an RNA/DNA hybrid such that another composite primer can hybridize to the template and repeat primer extension by strand displacement, where multiple copies of the complementary sequence of the target sequence are produced of varying lengths; and

(d) analyzing the product of (a) through (d) to determine the sequence;

(4) sequencing a target nucleotide sequence comprising:

(a) Steps (1)-(4) of (I);

(b) hybridizing a polynucleotide comprising a propromoter and a region which hybridizes to the displaced primer extension product under conditions such that transcription occurs from the extension product by RNA polymerase, using a mixture of rNTPs and rNTP analogs, such that RNA transcripts are produced comprising sequences complementary to the displaced primer extension products, and such that transcription is terminated upon incorporation of an rNTP analog, whereby multiple copies of the target sequence are produced of varying lengths;

(c) analyzing the product of steps (a) through (e) to determine the sequence;

(5) detecting a mutation in a target polynucleotide comprising:

(a) conducting (I) or (II); and

(b) analyzing the amplified products for single stranded conformation, where a difference in conformation as compared to a reference single stranded polynucleotide indicates a mutation in the target polynucleotide;

(6) producing a microarray, by conducting (I) and (II) and attaching the amplified products onto a solid **substrate** to make a microarray of the amplified products;

(7) a composition comprising a complex of CP and template strand, a template switch oligonucleotide (TSO), a blocking sequence and/or a propromoter template oligonucleotide (PTO);

(8) a reaction mixture comprising PN template, CP and DNA polymerase;

(9) a kit for amplification of (T), comprising CP; and

(10) a system for amplifying (T) or its complement comprising CP, DNA polymerase and an enzyme which cleaves RNA from an RNA/DNA hybrid.

USE - The method is useful for isothermal amplification of a target nucleotide sequence or a sequence complementary to the target sequence. Linear isothermal amplification are useful for sequencing

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of a defined nucleic acid target sequence and for detecting mutation in target nucleotide by analyzing the amplified products for single stranded conformation, where a difference in conformation as compared to a reference single stranded PN indicates a mutation in the target PN (claimed). The methods are also useful for qualitative detection of a nucleic acid sequence, quantitative determination of the amount of the target nucleic acid sequence, detection of the presence of defined sequence alterations, as needed for genotyping and detection of presence of various pathogens in a single biological sample. The amplified nucleic acid products are useful for genotyping and microarray preparation.

ADVANTAGE - The method does not require thermocycling in that amplification can be performed isothermally and facilitates automation and adaptation for high throughput amplification and/or analysis of nucleic acids. Sequencing based on the amplification methods are simplified by the ability to perform the reactions isothermally. The isothermal reaction is faster than that afforded by thermal cycling. Various target sequences and polymorphic sites in a single genomic DNA sample can be amplified simultaneously in a single reaction mixture.

Dwg.0/10

L13 ANSWER 18 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2001-182772 [18] WPIDS
DOC. NO. NON-CPI: N2001-130478
DOC. NO. CPI: C2001-054498
TITLE: New fucR polypeptides for use as research reagents and materials for discovering treatments of diseases, and for diagnosing bacterial infections, specifically those caused by Streptococcus pneumoniae.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): CHAN, P F; HOLMES, D J; LONETTO, M A; TRAINI, C M; ZALACAIN, M
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 19
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001007460	A1	20010201	(200118)*	EN	36
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: JP					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001007460	A1	WO 2000-US19776	20000720

PRIORITY APPLN. INFO: US 1999-144988P 19990722

AN 2001-182772 [18] WPIDS

AB WO 200107460 A UPAB: 20010402

NOVELTY - An isolated polypeptide that is either 95% identical to, comprises, or has a sequence (I) of 251 amino acids, given in the specification, or is encoded by a recombinant polynucleotide having

a sequence (II) of 756 base pairs (bp) given in the specification, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) an isolated polynucleotide comprising:
 - (i) a sequence encoding a polypeptide 95% identical to (I);
 - (ii) a sequence 95% identical to a nucleotide sequence encoding (I);
 - (iii) a nucleotide sequence that has 95% identity to (II);
 - (iv) a nucleotide sequence encoding (I);
 - (v) the sequence (II);
 - (vi) a sequence of at least 30 nucleotides in length obtained by screening a library under hybridization conditions with a probe having (II); or
 - (vii) a sequence which is a complement of the (i-vi);
- (2) treating an individual:
 - (a) in need of enhanced activity or expression of or immunological response to the polypeptide by administering an antagonist of the polypeptide; or
 - (b) having need to inhibit activity or expression of the polypeptide by administering an antagonist of the polypeptide, a nucleic acid that inhibits the expression of a polynucleotide encoding polypeptide, a polypeptide that competes with the new polypeptide for its ligand, **substrate** or receptor, or a polypeptide that induces an immunological response to the polypeptide in the individual;
- (3) diagnosing or prognosing a disease or susceptibility to a disease related to the expression or activity of the polypeptide in an individual by:
 - (a) determining the presence or absence of a mutation in the nucleotide sequence encoding the polypeptide; or
 - (b) analyzing for the presence or amount of polypeptide expression in a sample from the individual;
- (4) producing the new polypeptide comprising culturing a host cell under conditions for the production of the polypeptide;
- (5) producing a host cell comprising an expression system or its membrane expressing the polypeptide by transforming or transfecting a cell with an expression system comprising a polynucleotide capable of producing the polypeptide when the expression system is present in a compatible host cell;
- (6) a host cell or membrane expressing the polypeptide;
- (7) an antibody immunospecific for the polypeptide;
- (8) screening compounds that agonize or inhibit the function of the polypeptide by:
 - (a) measuring the **binding** of a candidate compound to the polypeptide (or to cells or membranes bearing the polypeptide) or to a fusion protein by means of a label directly or indirectly associated with the candidate compound, or in the presence of a labeled competitor
 - (b) testing whether the candidate compound results in a signal generated by activation or inhibition of the polypeptide, using detection systems appropriate to the cells or cell membranes bearing the polypeptide;
 - (c) mixing a candidate compound with a solution comprising the polypeptide to form a mixture, measuring activity of the polypeptide in the mixture, and comparing the activity of the mixture to a standard; or
 - (d) detecting the effect of a candidate compound on the

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production of mRNA encoding the polypeptide and the polypeptide in cells, using for instance, an enzyme linked immunosorbant assay (ELISA); and

(9) an agonist or antagonist to the new polypeptide.

ACTIVITY - Antibacterial. No biological data is given.

MECHANISM OF ACTION - None given.

USE - The polypeptide and polynucleotides encoding it may be used as research reagents and materials for the discovery of treatments of and diagnostics for diseases, particularly human diseases. These may be particularly used in diagnosing a disease, particularly bacterial infections, specifically those caused by *Streptococcus pneumoniae*, and the stage and type of infection the pathogen has attained. The polynucleotides, polypeptide and antibodies that **bind** to or interact with the polypeptide may be used:

(a) to configure screening methods for detecting the effect of added compounds on the production of mRNA and/or polypeptide in cells;

(b) to interfere with the initial interaction between a pathogen(s) and a eukaryotic cell or mammalian host responsible for sequelae of infection;

(c) in the prevention of bacterial adhesion to extracellular proteins on in-dwelling devices or wounds;

(d) to block bacterial adhesion between eukaryotic extracellular proteins and bacterial fucR proteins that mediate tissue damage; and/or

(e) to block the normal progression of pathogenesis in infections initiated other than by the implantation of in-dwelling devices or by other surgical techniques.

The polypeptide is further used in identifying membrane bound or soluble receptors, and can serve as a target for screening of antibacterial drugs. The polynucleotides may be used in the discovery and development of antibacterial compounds, and to construct antisense sequences to control the expression of the coding sequence of interest.

Dwg.0/0

L13 ANSWER 19 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2001-146292 [15] WPIDS
CROSS REFERENCE: 2000-181990 [16]; 2000-549271 [49]
DOC. NO. NON-CPI: N2001-107026
DOC. NO. CPI: C2001-043201
TITLE: **Detection of pathogens**, DNA or RNA useful e.g. to **detect** human **pathogens** such as tuberculosis in serum by detecting both test and control materials using a column having a snare for each of the materials.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): CHEN, H
PATENT ASSIGNEE(S): (ACGT-N) ACGT MEDICO INC
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 6174733	B1	20010116	(200115)*		20

APPLICATION DETAILS:

Searcher : Shears 308-4994

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above antibody) on an insoluble carrier, in known amts.; and (c) a standard soln. of a **substrate** for measuring the esterase activity, e.g. S-acetylthiophenyl or naphthyl acetate or nitrophenylacetate.

USE - Cpds. (I) are aids for rapid clinical analysis and diagnosis.

[REDACTED] CAPLUS, MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JAPPIO' ENTERED AT 15:47:48 ON 06 MAR 2002)
L21 859 S ABBOTT N?/AU - Author(s)
L22 24 S SKAIFE J?/AU
L23 24 S L21 AND L22
L24 2 S (L21 OR L22) AND L1
24 S L23 OR L24
[REDACTED] (10 DUPLICATES REMOVED)

L26 ANSWER 1 OF 14 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 1
ACCESSION NUMBER: 2001:614223 CAPLUS
TITLE: Method and apparatus for **detection** of
microscopic **pathogens**
INVENTOR(S): **Abbott, Nicholas L.; Skaife, Justin J.**
PATENT ASSIGNEE(S): Wisconsin Alumni Research Foundation, USA
SOURCE: PCT Int. Appl.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001061357	A2	20010823	WO 2001-US4858	20010215
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.: US 2000-182941 P 20000216
AB Detection apparatus for use in the detection of the presence of a selected pathogen in a sample are disclosed. Such apparatus includes: a substrate with a detection region on a surface thereof, the detection region having microstructures including grooves formed therein that will align liquid crystal material in contact therewith, the width and depth of the grooves being in the range of 10 .mu.m or less; a blocking layer on the surface of the detection region of the substrate that does not disrupt the alignment of liquid crystal material in contact therewith, the blocking layer blocking nonspecific adsorption of pathogens to the surface; and a binding agent on the surface of the detection region of the substrate, the binding agent specifically binding the selected pathogen.

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L26 ANSWER 2 OF 14 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 2
ACCESSION NUMBER: 2001:668371 CAPLUS
DOCUMENT NUMBER: 135:201077
TITLE: Quantitative characterization of
obliquely-deposited substrates of gold by atomic
force microscopy: influence of substrate
topography on anchoring of liquid crystals
INVENTOR(S): **Abbott, Nicholas L.; Skaife,
Justin J.**
PATENT ASSIGNEE(S): The Regents of the University of California, USA
SOURCE: U.S., 33 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
	US 6288392	B1	20010911	US 1999-233293	19990119
AB	Scanning probe microscopy is used to quant. characterize structural anisotropy within obliquely deposited metal films. Whereas visual inspection of AFM images (real space or reciprocal space) reveals no obvious structural anisotropy within these gold films, by quant. anal. of the AFM profiles, subtle structural anisotropy is obsd. The quant. characterization provides a method to est. the influence of anisotropy on the orientations of supported mesogenic layers.				

L26 ANSWER 3 OF 14 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 3
ACCESSION NUMBER: 2001:582398 CAPLUS
DOCUMENT NUMBER: 135:253486
TITLE: Influence of Molecular-Level Interactions on the
Orientations of Liquid Crystals Supported on
Nanostructured Surfaces Presenting Specifically
Bound Proteins
AUTHOR(S): **Skaife, Justin J.; Abbott,
Nicholas L.**
CORPORATE SOURCE: Department of Chemical Engineering, University
of Wisconsin, Madison, WI, 53706, USA
SOURCE: Langmuir (2001), 17(18), 5595-5604
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We report an exptl. investigation of the role of mol.-level
interactions in detg. the anchoring of liq. crystals supported on
surfaces possessing nanometer-scale topog. on which Igs (IgG) are
specifically bound to immobilized antigens. Mol.-level interactions
are manipulated by using self-assembled monolayers (SAMs) of
organosulfur compds. formed on thin films of gold that possess an
anisotropic, nanometer-scale topog. (corrugation). We compare the
orientational response of liq. crystal to the presence of
anti-biotin IgG specifically bound to mixed SAMs formed from
biotin-(CH₂)₂[(CH₂)₂₀]2NHCO(CH₂)₁₁SH and either CH₃(CH₂)₆SH or
CH₃(CH₂)₇SH on the gold films. When using SAMs that contain 70%
alkanethiolate, we measure the orientational (and thus optical)
response of the liq. crystal to IgG to depend on whether the

alkanethiolate within the mixed SAM is CH₃(CH₂)₆S or CH₃(CH₂)₇S. We conclude that in addn. to long-range (elastic) interactions that result from the nanometer-scale topog. of the gold film, mol.-level interactions controlled by the structure of the alkanethiolates influence the response of liq. crystal to the IgG specifically bound to these surfaces. The influence of the nanometer-scale topog. does, however, dominate the response of the liq. crystal. The mol. interactions appear to influence the lifetimes of line defects formed as nematic phases spread across these surfaces: the defects are obsd. to anneal quickly (.apprx. seconds) on SAMs contg. CH₃(CH₂)₇S but slowly (> days) on those contg. CH₃(CH₂)₆S. The pinning of defects within the liq. crystal when using SAMs contg. CH₃(CH₂)₆S causes these surfaces to be more sensitive to bound IgG than surfaces contg. CH₃(CH₂)₇S.

REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L26 ANSWER 4 OF 14 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 4
ACCESSION NUMBER: 2001:582397 CAPLUS
DOCUMENT NUMBER: 135:253485
TITLE: Influence of Nanometer-Scale Topography of
Surfaces on the Orientational Response of Liquid
Crystals to Proteins Specifically Bound to
Surface-Immobilized Receptors
AUTHOR(S): Skaife, Justin J.; Brake, Jeffery M.;
Abbott, Nicholas L.
CORPORATE SOURCE: Department of Chemical Engineering, University
of Wisconsin, Madison, WI, 53706, USA
SOURCE: Langmuir (2001), 17(18), 5448-5457
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We report procedures based on oblique deposition of gold that lead to the prepn. of ultrathin, semitransparent films of gold that possess systematic differences in their nanometer-scale topog. The nanometer-scale topog. of these surfaces is controlled by the angle of incidence of the gold during the oblique deposition of each film. The topog. is quantified by using at. force microscopy (AFM) in terms of the azimuthal dependence of the contour length and local curvature of the surface. We use these surfaces to test our hypothesis that control of nanometer-scale topog. permits manipulation of the orientational response of liq. crystal to proteins bound to receptors immobilized on surfaces. We measure the orientational response of nematic phases of 4-cyano-4'-pentylbiphenyl (5CB) to anti-biotin IgG bound to biotin-terminated self-assembled monolayers to depend strongly on the nanometer-scale topog. of the surfaces. The response of the liq. crystal correlates closely with quant. measures of the surface topog. obtained by AFM and thus demonstrates that it is possible to tune the sensitivity of nematic liq. crystals to the presence of specifically bound IgG by manipulating the nanometer-scale topog. of surfaces. The surfaces with the smallest local curvatures were found to be the most sensitive to the presence of bound IgG. We also calc. the anchoring energy of liq. crystal on the surfaces by using continuum elastic theory and the topog. obtained from the AFM images. Although the sensitivity of the liq. crystal to the bound protein increases with

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decreasing anchoring energy, it is not possible to provide a complete account of the orientational behavior of the liq. crystal on these surfaces on the basis of continuum elastic theory.

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 5 OF 14 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 5

ACCESSION NUMBER: 2000:137840 CAPLUS

DOCUMENT NUMBER: 132:292361

TITLE: Quantitative interpretation of the optical textures of liquid crystals caused by specific binding of immunoglobulins to surface-bound antigens

AUTHOR(S): Skaife, Justin J.; Abbott, Nicholas L.

CORPORATE SOURCE: Department of Chemical Engineering, University of Wisconsin, Madison, WI, 53706, USA

SOURCE: Langmuir (2000), 16(7), 3529-3536
CODEN: LANGD5; ISSN: 0743-7463

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The authors report a quant. anal. of the change in optical appearance of a supported film of liq. crystal that is induced by specific binding of an Ig (IgG) to a surface-bound antigen. The authors interpret the optical appearance to indicate the amt. of bound IgG and thus the concn. of IgG in soln. The procedure is a simple one to perform, requiring use of a CCD camera and a polarized white light source. The authors use the av. gray scale brightness of the optical appearance of the supported liq. crystal to construct an optical response curve as a function of the amt. of anti-biotin IgG bound to surface-immobilized biotin. The authors interpret the optical response curve using a model based on statistical binding of antibody to the surface and a cooperative response of the nematic liq. crystal to the bound antibody. Because the amt. of bound antibody is largely controlled by mass transport of the antibody to the surface and thus the concn. of IgG in soln., the optical appearance of the liq. crystal can be correlated to the concn. of IgG in soln. The authors measured changes in the gray scale brightness of the liq. crystal over 2 orders of magnitude of concn. of IgG in soln. (1-100 nM). The results also suggest that convection and geometry can be used to increase the dynamic range and sensitivity of the liq. crystal to the concn. of IgG in soln.

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:333270 CAPLUS

TITLE: Using liquid crystals to image reactions on surfaces with micrometer resolution.

AUTHOR(S): Abbott, Nicholas; Shah, Rahul; Skaife, Justin

CORPORATE SOURCE: Department of Chemical Engineering, University of Wisconsin, Madison, WI, 53706, USA

SOURCE: Book of Abstracts, 219th ACS National Meeting, San Francisco, CA, March 26-30, 2000 (2000),

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PHYS-155. American Chemical Society:
Washington, D. C.
CODEN: 69CLAC

DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English

AB Anisotropic interactions between thermotropic liq. crystals and the surfaces of solids typically cause liq. crystals to be "anchored" in one or more orientations near surfaces. Because the balance of intermol. forces acting between a liq. crystal and a surface can be easily perturbed by the transformation of state of a surface-immobilized species, and because the change in orientation of the liq. crystal can be imaged with micrometer-resoln. by using polarized light, liq. crystals can provide the basis of a general principle for the imaging of reactions on surfaces. This talk will describe the design of surfaces that permits the imaging of acid-base reactions and biospecific interactions between ligands and receptors on surfaces by using liq. crystals. Approaches to the patterning of reactants on surfaces will also be demonstrated, thereby leading to the formation of a liq. crystal grating that diffracts light upon conversion of reactant to product.

L26 ANSWER 7 OF 14 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 2000:755526 SCISEARCH
THE GENUINE ARTICLE: 317UW
TITLE: Using liquid crystals to image reactions on surfaces with micrometer resolution.
AUTHOR: **Abbott N (Reprint); Shah R; Skaife J**
CORPORATE SOURCE: UNIV WISCONSIN, DEPT CHEM ENGN, MADISON, WI 53706
COUNTRY OF AUTHOR: USA
SOURCE: ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY (26 MAR 2000) Vol. 219, Part 2, pp. 155-PHYS.
Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036.
ISSN: 0065-7727.
DOCUMENT TYPE: Conference; Journal
LANGUAGE: English
REFERENCE COUNT: 0

L26 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:330500 CAPLUS
TITLE: Soft lithography and nanoscale templating: Advances and applications.
AUTHOR(S): **Abbott, Nicholas L.; Nealey, Paul F.; Yang, Xiaomin; Teixeira, Ana; Skaife, Justin J.; Kim, Seung-Ryeol**
CORPORATE SOURCE: Department of Chemical Engineering, University of Wisconsin, Madison, WI, 53706, USA
SOURCE: Book of Abstracts, 219th ACS National Meeting, San Francisco, CA, March 26-30, 2000 (2000), IEC-044. American Chemical Society: Washington, D. C.
CODEN: 69CLAC
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB Abstr. text not available.

L26 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 6

09/784232

ACCESSION NUMBER: 1999:784329 CAPLUS
DOCUMENT NUMBER: 132:20781
TITLE: Optical amplification of molecular interactions
using liquid crystals
INVENTOR(S): **Abbott, Nicholas L.; Skaife,**
Justin J.; Gupta, Vinay K.; Dubrovsky,
Timothy B.; Shah, Rahul
PATENT ASSIGNEE(S): The Regents of the University of California, USA
SOURCE: PCT Int. Appl., 135 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9963329	A1	19991209	WO 1999-US12540	19990604
W: CA, JP RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6284197	B1	20010904	US 1998-127382	19980731
EP 1084394	A1	20010321	EP 1999-927243	19990604
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 2002004216	A1	20020110	US 2001-898132	20010703
PRIORITY APPLN. INFO.:				
			US 1998-92453	A 19980605
			US 1998-127382	A 19980731
			WO 1999-US12540	W 19990604

OTHER SOURCE(S): MARPAT 132:20781

AB App. is described which comprises a first substrate having a surface, the surface comprising a recognition moiety; a mesogenic layer oriented on the surface; and an interface between the mesogenic layer and a member selected from the group consisting of gases, liqs. solids and combinations thereof. A second substrate may be provided over the mesogenic moiety. The app. may be specifically configured for use for detecting an interaction between an analyte and a recognition moiety by detecting changes in the orientation of the mesogens occurring as a result of the interaction. Methods for detecting an analyte are described which entail contacting a recognition moiety for an analyte with a sample so that, when the analyte of interest is present, the contacting causes at least a portion of a plurality of mesogens proximate to the recognition moiety to detectably switch from a first orientation to a second orientation upon contacting the analyte with the recognition moiety; and detecting the second configuration. The analyte may be selected from the group consisting of acids, bases, org. ions, inorg. ions, pharmaceuticals, herbicides, pesticides, chem. warfare agents, noxious gases, biomols., and combinations of these. App. for synthesizing and screening a library of compds. is also described which comprises a synthesis component, comprising a first substrate having a surface, and a self-assembled monolayer on the surface, the monolayer comprising a reactive functionality; and an anal. component, comprising: a second substrate having a surface, and a mesogenic layer between the surface of the first substrate and the surface of the second substrate. Libraries of compds. synthesized on a self-assembled monolayer are also claimed, as are low energy surfaces (surface energy 1-40 mJ/m²) with mesogenic

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layers anchored on them. Methods for controlling the tilt of, and/or optical texture in a mesogenic layer anchored to, a haloorganosulfur moiety adsorbed on a substrate entail controlling the halogen content of the moiety.

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 7
ACCESSION NUMBER: 1999:84969 CAPLUS
DOCUMENT NUMBER: 130:228128
TITLE: Quantitative Characterization of Obliquely Deposited Substrates of Gold by Atomic Force Microscopy: Influence of Substrate Topography on Anchoring of Liquid Crystals
AUTHOR(S): Skaife, Justin J.; Abbott, Nicholas L.
CORPORATE SOURCE: Department of Chemical Engineering, University of Wisconsin, Madison, WI, 53706, USA
SOURCE: Chem. Mater. (1999), 11(3), 612-623
CODEN: CMATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We report the use of at. force microscopy (AFM) to characterize quant. the structural anisotropy within ultrathin (thickness of .apprx.10 nm) obliquely deposited films of gold and thereby calc. the influence of this anisotropy on the orientations of liq. crystals (LCs) supported on these surfaces. Whereas visual inspection of AFM images (real space or reciprocal space) reveals no obvious structural anisotropy within these gold films, a quant. anal. of the AFM profiles does show a subtle level of anisotropy on wavelengths comparable to the lateral dimensions of the gold grains (.apprx.30 nm). Our anal. reveals the root-mean-square (rms) slope of the surface topog. to be .apprx.1.degree. greater in a direction parallel to the direction of deposition of the gold as compared to the perpendicular direction. We also demonstrate the rms curvature of the grains of gold to be greatest in a direction parallel to deposition. Because the amplitude of the surface roughness (.apprx.2 nm) is small compared to its wavelength (.apprx.30 nm), the influence of the surface roughness on the orientations of supported LCs can be described through an elastic mechanism of anchoring. By combining the multimode Berreman-de Gennes model for the elastic free energy d. of a nematic LC with AFM profiles of the topog. of obliquely deposited gold films, we calc. the azimuthal anchoring energy of the supported LC to be .apprx.0.015 mJ/m², a value that is consistent with ests. of anchoring energies obtained by fabrication of twisted nematic LC cells. The results reported in this paper provide a route to the characterization of surfaces with designed levels of anisotropy suitable for control of the anchoring of LCs. This capability will, we believe, find application in studies aimed at exploring the use of LCs for amplification and transduction of events of mol. recognition (e.g., antigen-antibody) at surfaces.

REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L26 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:211262 CAPLUS

DOCUMENT NUMBER: 130:317042

TITLE: Using liquid crystals as probes of nanostructured organic surfaces

AUTHOR(S): **Abbott, Nicholas L.**; Shah, Rahul R.; Gupta, Vinay K.; **Skaife, Justin J.**

CORPORATE SOURCE: Department of Chemical Engineering, University of Wisconsin-Madison, Madison, WI, 53706, USA

SOURCE: Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.) (1999), 40(1), 425-426
CODEN: ACPPAY; ISSN: 0032-3934

PUBLISHER: American Chemical Society, Division of Polymer Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The authors describe two examples of the use of liq. crystals (LCs) as probes of nanostructured surfaces. First, the orientations of LCs supported on self-assembled monolayers (SAMs) formed from .omega.-functionalized alkanethiols are reported. When the SAMs are supported on films of gold deposited so as to possess a nanometer scale anisotropic roughness, LCs display a high level of sensitivity to the orientation and type of .omega.-functional group presented at the surface of the SAM. Second, the design of nanostructured org. surfaces is described such that specific binding of an antibody to a surface-bound antigen leads to a change in orientation of a supported LC. By using microcontact printing, surfaces were patterned with antigens such that a change in orientation of a supported LC leads to an output that is easily read by a variety of optical methods.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:146175 CAPLUS

TITLE: Using liquid crystals as probes of nanostructured organic surfaces

AUTHOR(S): **Abbott, Nicholas L.**; Shah, Rahul R.; Gupta, Vinay K.; **Skaife, Justin J.**

CORPORATE SOURCE: Department of Chemical Engineering, University of Wisconsin, Madison, WI, 53706, USA

SOURCE: Book of Abstracts, 217th ACS National Meeting, Anaheim, Calif., March 21-25 (1999), POLY-139.
American Chemical Society: Washington, D. C.
CODEN: 67GHA6

DOCUMENT TYPE: Conference; Meeting Abstract

LANGUAGE: English

AB We report two examples of the use of thermotropic liq. crystals as wet chem. probes of mol. and macromol. species supported on nanostructured surfaces. First, we report the orientations of liq. crystals supported on self-assembled monolayers (SAMs) formed from w-functionalized alkanethiols. When the SAMs are formed on films of gold deposited so as to possess a nanometer-scale, anisotropic roughness, liq. crystals display a high level of sensitivity to the orientation and type of w-functional group presented at the surface of the SAM. Second, we report the design of nanostructured, org. surfaces such that specific binding of an antibody to a

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surface-bound antigen leads to a change in orientation of a supported liq. crystal.

L26 ANSWER 13 OF 14 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 1999:228382 SCISEARCH
THE GENUINE ARTICLE: 176JP
TITLE: Using liquid crystals as probes of nanostructured organic surfaces.
AUTHOR: **Abbott N L (Reprint);** Shah R R; Gupta V K; **Skaife J J**
CORPORATE SOURCE: UNIV WISCONSIN, DEPT CHEM ENGN, MADISON, WI 53706
COUNTRY OF AUTHOR: USA
SOURCE: ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY (21 MAR 1999) Vol. 217, Part 2, pp. 139-POLY. Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036. ISSN: 0065-7727.
DOCUMENT TYPE: Conference; Journal
LANGUAGE: English
REFERENCE COUNT: 0

L26 ANSWER 14 OF 14 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 8
ACCESSION NUMBER: 1998:215668 CAPLUS
DOCUMENT NUMBER: 129:2294
TITLE: Optical amplification of ligand-receptor binding using liquid crystals
AUTHOR(S): Gupta, Vinay K.; **Skaife, Justin J.**; Dubrovsky, Timothy B.; **Abbott, Nicholas L.**
CORPORATE SOURCE: Dep. Chemical Eng. and Materials Science, Univ. California, Davis, CA, 95616, USA
SOURCE: Science (Washington, D. C.) (1998), 279(5359), 2077-2080
CODEN: SCIEAS; ISSN: 0036-8075
PUBLISHER: American Association for the Advancement of Science
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Liq. crystals (LCs) were used to amplify and transduce receptor-mediated binding of proteins at surfaces into optical outputs. Spontaneously organized surfaces were designed so that protein mols., upon binding to ligands hosted on these surfaces, triggered changes in the orientations of 1- to 20-.mu.m-thick films of supported LCs, thus corresponding to a reorientation of .apprx.105 to 106 mesogens per protein. Binding-induced changes in the intensity of light transmitted through the LC were easily seen with the naked eye and could be further amplified by using surfaces designed so that protein-ligand recognition causes twisted nematic LCs to untwist. This approach to the detection of ligand-receptor binding does not require labeling of the analyte, does not require the use of electroanal. app., provides a spatial resoln. of micrometers, and is sufficiently simple that it may find use in biochem. assays and imaging of spatially resolved chem. libraries.

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INVENTOR(S): Moennig, Volker
PATENT ASSIGNEE(S): Fed. Rep. Ger.
SOURCE: Ger. Offen., 10 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3840968	A1	19900607	DE 1988-3840968	19881205
DE 3840968	C2	19901004		

AB Monoclonal anti-idiotypic antibodies are described which mimic a genetically conserved epitope of an infective agent, which epitope only occurs in serotypes of this infective agent, induces antibody formation in the natural host, and comprises a part of an immunodominant antigen. The anti-idiotypic antibodies are prep'd. by crosslinking or conjugation of a conventionally prep'd. monoclonal antibody, using the product for immunization, and prodn. and selection of hybridomas secreting the anti-idiotypic antibodies. Kits for detection of an antibody to an infective agent are described which contain an immobilized monoclonal anti-idiotypic antibody and a labeled mono- or polyclonal antibody to the agent, a fluorogenic or chromogenic substrate (if the label is an enzyme), and a stop soln. Prodn. of monoclonal anti-idiotypic antibodies which mimic an epitope on European swine plaque virus is cited as an example.

[REDACTED] OLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH,
J [REDACTED] EPLUS, JAPIO' ENTERED AT 15:43:57 ON 06 MAR 2002)

L17 26 S L15
~~L18 14 S L17 NOT L12~~
L19 25 DUP REM L17 (1 DUPLICATE REMOVED)
L20 14 S L19 AND BIND?

L20 ANSWER 1 OF 14 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2002-114152 [15] WPIDS
DOC. NO. NON-CPI: N2002-085150
DOC. NO. CPI: C2002-034959
TITLE: Analysis of polynucleotides in a sample using generic capture sequences comprises amplifying target polynucleotide, and utilizing the product to indirectly assay the sample for the polynucleotide.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): LAI, J H; PHILLIPS, V E; WATSON, A R
PATENT ASSIGNEE(S): (QUAN-N) QUANTUM DOT CORP
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001083823	A1	20011108	(200215)*	EN	85
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BY BZ CA CH CN CO CR CU CZ					
DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE					
KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO					

09/784232

NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ
VN YU ZA ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001083823	A1	WO 2001-US13979	20010430

PRIORITY APPLN. INFO: US 2000-200635P 20000428

AN 2002-114152 [15] WPIDS

AB WO 200183823 A UPAB: 20020306

NOVELTY - Assaying, (M1) for an amplification product (AMP) from a first target polynucleotide, (TP), comprising providing a sample that is suspected of containing AMP, where the AMP is a polynucleotide comprising a first label and a capture sequence not present in the TP at the same position, is new.

DETAILED DESCRIPTION - A target polynucleotide, (TP), is amplified, where first primer has a tag sequence, the complement of which is formed on the opposite strand during amplification and is referred to as capture sequence (CS), and the opposite strand is referred to as an amplification product (AMP) has a label; probe conjugated to **substrate** specific to CS, is contacted with AMP to form AMP detection complex. Assaying (M1) for an AMP from a first TP, comprises providing a sample that is suspected of containing AMP, where the AMP is a polynucleotide comprising a first label and a capture sequence not present in the TP at the same position, where the AMP is formed by primer extension from a template, where the template comprises a complement to the TP and a target noncomplementary region, where the capture sequence is a complement to the target noncomplementary region, providing a **substrate** that is conjugated to a first capture probe, contacting the sample with the capture probe under a first set of hybridization conditions, where the capture probe can **bind** to the capture sequence under the first set of hybridization conditions and determining if the first label is associated with the **substrate**.

INDEPENDENT CLAIMS are also included for the following:

(1) forming (M2) an AMP detection complex for assaying a sample for a first TP;

(2) an amplification product detection complex comprising a capture probe polynucleotide hybridized to capture sequence of labeled amplification product from a TP, where the capture probe polynucleotide is conjugated to a **substrate**, where the capture sequence is not present in a region of the TP which is amplified and is introduced into the amplification product by copying a template polynucleotide, the template polynucleotide comprising a target noncomplementary region and a region complementary to the TP, where the target noncomplementary region was introduced into the template polynucleotide by extension of a primer hybridized to the target polynucleotide, the primer comprising the target noncomplementary region and where the capture sequence is complementary to the target noncomplementary region; and

(3) a **kit** for assaying for an AMP from a TP comprises a **substrate** attached to a capture probe, a first primer comprising a 3' end and a first target complementary region located at the 3' end of the first primer, and a first target noncomplementary

region that is not complementary to the first TP at a position 3' of a sequence to which the first target complementary region can hybridize, a second primer, label, housing for retaining the **substrate**, first primer, second primer, and a label and instruction provided with the housing that describe how to use the components of the **kit** to assay a sample by forming an AMP from the TP using the first and second primers that comprises the label and a capture sequence that is complementary to the target noncomplementary in the first primer, where the capture sequence can **bind** to the capture probe.

USE - (M2) is useful for forming an AMP detection complex for assaying a sample for first TP. The method further comprises determining if the first label is associated with the first **substrate**, where AMP is produced at a detectably higher level from at least one allele of a locus having at least two alleles and the first **substrate** preferably a first microsphere comprising a first spectral code is identified by decoding the spectral code which is preferably performed prior to, simultaneously or subsequent to determining if the first label from the second primer is associated with a **substrate**, first TP, preferably single-stranded or double-stranded DNA or RNA and a polymerase, preferably DNA polymerase having reverse transcriptase activity is used to form the first primer extension product (claimed). (M1) is useful for particular polynucleotide sequences, whether based on SNPs, conserved sequences, or other features or useful in a wide variety of different applications. The method is useful for pharmacogenetic testing, such methods can be used in a forensic setting to identify the species or individual which was the source of a forensic specimen. Polynucleotide analysis methods can also be used in an anthropological setting. Paternity testing is another area, as is testing for compatibility, between prospective tissue or blood donors and patients in need, and in screening for heredity disorders. (M1) is also useful for studying gene expression in response to a stimulus. Other applications include human population genetics, analyses of human evolutionary history, and characterization of human haplotype diversity. The method is useful to detect immunoglobulin class switching and hypervariable mutation of immunoglobulins, to **detect** polynucleotide sequences from contaminants or **pathogens** including bacteria, yeast, viruses, for HIV subtyping to determine the particular strains or relative amounts of particular strains infecting an individual, and can be repeatedly to monitor changes in the individuals predominant HIV strains, such as the development of drug resistance or T cell tropism; and to detect single nucleotide polymorphisms, which may be associated with particular alleles or subsets of allele. Over 1.4 million different single nucleotide polymorphisms (SNPs) in the human population have been identified. The method is also useful for mini-sequencing and for detection of mutations. Any type of mutation can be detected, including without limitation SNPs, insertions, deletions, transitions; transversions, inversions, frame shifts, triplet repeat expansions, and chromosome rearrangements. The method is useful to detect nucleotide sequences associated with increased risk of diseases or disorders, including cystic fibrosis, Tay-Sachs, sickle-cell anemia, etc. The method is useful for any assay in which a sample can be interrogated regarding an amplification product from a target polynucleotide. Typical assays involve determine the presence of the amplification product in the sample or its relative amount, or the assays may quantitative or semi-quantitative. Results

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from such assays can be used to determine the presence or amount of the target polynucleotide present in the sample. The above methods are particularly useful in multiplex settings where several TP are to be assayed.
Dwg.0/15

L20 ANSWER 2 OF 14 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2002-083189 [11] WPIDS
DOC. NO. CPI: C2002-025293
TITLE: Analyzing variant sites of target nucleic acids, useful for identifying and detecting point mutations, specifically those mutations correlated with diseases e.g. cancer, by limited primer extension.
DERWENT CLASS: B04 D16
INVENTOR(S): GLAZER, A N; XU, H
PATENT ASSIGNEE(S): (DNAS-N) DNA SCI INC
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001092583	A1	20011206	(200211)*	EN	54
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001092583	A1	WO 2001-US18023	20010531

PRIORITY APPLN. INFO: US 2000-586125 20000602

AN 2002-083189 [11] WPIDS

AB WO 200192583 A UPAB: 20020215

NOVELTY - Analyzing (M1) a variant site of a target nucleic acid (TNA) by conducting template dependent extension reaction in presence of a mixture of labeled extendible nucleotide (nt) (LEN) and labeled non-extendible nts (LNEN), and detecting incorporation of labeled nt indicating identity of nt at variant site, since incorporated nt is complementary to nt at site of variation.

DETAILED DESCRIPTION - Analyzing (M1) a variant site of a target nucleic acid (TNA) by conducting template dependent extension reaction in presence of a mixture of labeled extendible nucleotide (nt) (LEN) and labeled non-extendible nts (LNEN), and detecting incorporation of labeled nt indicating identity of nt at variant site, since incorporated nt is complementary to nt at site of variation. (M1) comprises:

(a) conducting a template-dependent extension reaction comprising extending a primer (I) in the presence of TNA and a mixture of nucleotides comprising a LEN and LNEN being complementary to a different allelic form of TNA and optionally differentially

labeled, where (I) hybridizes to a segment of TNA such that the 3'-end of (I) hybridizes adjacent to the variant site of TNA, where if the LEN is complementary to the nucleotide occupying the variant site, (I) is extended by incorporation of the LEN, and can be extended further if one or more nucleotides downstream of the variant site are complementary to one of the nucleotides in the mixture, and if the LNEN is complementary to the nucleotide occupying variant site, (I) is extended by incorporation of the LNEN; and

(b) detecting incorporation of labeled nucleotide into the extended (I), the identity of the labeled nucleotide incorporated into (I) indicating the identity of the nucleotide at the variant site, where the identity of the incorporated nucleotide is determined from the label borne by the incorporated nucleotide and/or the size of the extended (I).

INDEPENDENT CLAIMS are also included for the following:

(1) analyzing (M2) variant sites in one or more TNA comprising:

(a) conducting several template-dependent extension reactions in the presence of several different primers, where the primers hybridize adjacent to different variant sites of TNAs and are differentially labeled, where extension reaction comprises contacting a sample containing the TNAs with one of the different labeled primers, and exposing the primer to a mixture of nucleotides comprising LEN and LNEN, where the extension reactions generate several different extension products, which are from different variant sites being distinguishable on the basis of the different labels borne by the extended primers; and

(b) detecting incorporation of labeled nucleotides into the extension products as an indication of the nucleotides occupying the site of variation in TNAs, where the identity of the incorporated nucleotide is determined from the label borne by the incorporated nucleotide and/or the size of the extended primer; and

(2) a kit (II) utilized in (M1) comprising LEN, LNEN, nucleotides complementary to different allelic forms of TNA, and a primer that hybridizes to a segment of TNA such that 3' end of the primer adjacent to the variant site of TNA.

USE - M1 is useful for analyzing a variant site of a target nucleic acid, and M2 is useful for analyzing variant sites in one or more TNA (claimed).

The method and (II) is useful for identification and detection of point mutations (e.g. somatic point mutation), specifically those mutations correlated with diseases such as diseases associated with SNPs which include sickle cell anemia, cystic fibrosis; autoimmune diseases; formation of oncogenes and cancer. For e.g. identifying whether a nucleic acid from a particular subject includes a wild-type allele or a mutant allele at a particular single nucleotide polymorphic (SNP) site. Further, the methods can be utilized to establish the genotype of the individual being tested (i.e., distinguish whether the individual is a reference-type homozygote, a heterozygote or a variant-type homozygote). The genotyping utility of the methods makes them useful within the context of medical diagnosis and prognosis. Since many SNPs are associated with various diseases and clinicians can utilize the results of the genotype study to assess the presence of disease, whether an individual is a carrier of disease, the likelihood that an individual will get a particular disease and the likely efficacy of various treatment alternatives.

The methods also have a variety of non-medical uses, such as

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detecting pathogenic microorganisms, paternity testing and forensic analysis in which polymorphisms in specific genes can be determined in, for e.g. blood or semen obtained from a crime scene to indicate whether a particular suspect was involved in the crime. In like manner, polymorphism analysis may be utilized in disputes to aid in determining whether a particular individual is the parent of a certain child. The methods can also be used to identify SNPs in non-humans, including, for e.g. other animals, plants, bacteria and viruses.

The methods are also useful for identifying point mutations in pathogens that could potentially result in altered pathogenicity or resistance to certain therapeutics; and to identify cells and strains having a desired genetic constitution for use in various biotechnology applications. The method is utilized as a diagnostic tool and a prognostic tool of a disease which is useful in formulating optimal treatment for the patient.
Dwg.0/6

L20 ANSWER 3 OF 14 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2001-616242 [71] WPIDS
CROSS REFERENCE: 2001-607195 [69]
DOC. NO. NON-CPI: N2001-459684
DOC. NO. CPI: C2001-184468
TITLE: New nucleic acid sensor molecule useful in diagnostic applications, nucleic acid-based electronics and functional genomics, comprises an enzymatic nucleic acid and one or more sensors.
DERWENT CLASS: B04 D16 T01
INVENTOR(S): BLATT, L; CHOWRIRA, B; HAEBERLI, P; MCSWIGGEN, J A; SEIWERT, S; USMAN, N; ZINNEN, S
PATENT ASSIGNEE(S): (RIBO-N) RIBOZYME PHARM INC
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001066721	A2	20010913	(200171)*	EN	115
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ					
DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE					
KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO					
NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ					
VN YU ZA ZW					
AU 2001043454	A	20010917	(200204)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001066721	A2	WO 2001-US7163	20010306
AU 2001043454	A	AU 2001-43454	20010306

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001043454	A Based on	WO 200166721

PRIORITY APPLN. INFO: US 2000-187128P 20000306

AN 2001-616242 [71] WPIDS

CR 2001-607195 [69]

AB WO 200166721 A UPAB: 20020117

NOVELTY - A nucleic acid sensor molecule (I) comprising an enzymatic nucleic acid component (EC) and one or more sensor components, is new.

DETAILED DESCRIPTION - In a nucleic acid sensor molecule (I), in response to an interaction of the target signaling agent with (I), EC catalyzes a chemical reaction involving covalent attachment of at least a portion of a reporter molecule (RM) to (I), carries out a chemical reaction involving isomerization of at least a portion of RM, or catalyses a phosphorylation or dephosphorylation reaction on a non-oligonucleotide-based portion of RM.

INDEPENDENT CLAIMS are also included for:

(1) a method involving contacting (I) and RM with a system under conditions suitable for EC to attach at least a portion of RM to (I) in the presence of a target signaling agent, to isomerize at least a portion of RM in the presence of target signaling agent, or to phosphorylate or dephosphorylate a no-oligonucleotide-based portion of RM in the presence of a target signaling agent, and assaying for the attachment of RM to (I), or assaying for the isomerization, phosphorylation or dephosphorylation reaction;

(2) a method involving contacting (I) which comprises EC comprising a **substrate binding** region and a catalytic region, and a sensor component comprising a nucleic acid sequence that, upon interacting with a complementary sequence in EC, inhibits the activity of EC, and RM comprising a nucleic acid sequence complementary to the **substrate binding** region of EC with a system under conditions suitable for EC to catalyze cleavage of RM or to catalyze a ligation reaction involving RM in the presence of a target signaling molecule, and assaying for the cleavage and assaying for cleavage or ligation reaction;

(3) a **kit** comprising (I) which comprises EC comprising a **substrate binding** region and a catalytic region, and a sensor component comprising a nucleic acid which inhibits the activity of EC upon interacting with a complementary sequence in EC, and RM cleavable by EC in the presence of target signaling molecule, where RM comprises a chemical moiety capable of emitting a detectable signal upon cleavage of RM;

(4) a **kit** comprising (I) comprising EC including one or more sensor components, and RM, where in response to an interaction of a target signaling molecule with (I), EC catalyzes a chemical reaction involving covalent attachment of at least a portion of RM to (I), carries out a chemical reaction involving isomerization of at least a portion of RM, or catalyses a chemical reaction involving phosphorylation or dephosphorylation of a non-oligonucleotide-based portion of RM;

(5) a method involving contacting one or more components of **kit** (3) or (4) with a system under conditions suitable for at least a portion of RM in (3) or (4) to be cleaved by (I) in the presence of a target molecule, or under conditions suitable for at least a portion of RM to be covalently attached to (I), isomerized by (I) or phosphorylated or dephosphorylated by (I) in the presence of a target signaling molecule;

(6) a nucleic acid circuit comprising (I) which comprises EC and one or more sensor components, where, in response to an

interaction of a target signaling agent with (I), EC catalyzes a chemical reaction involving ligation or cleavage of at least a portion of a nucleic acid based-component;

(7) a nucleic acid computer comprising a nucleic acid based-component;

(8) a method involving contacting a nucleic acid based-component with a target signaling agent under conditions suitable for (I) to ligate or cleave at least a portion of a nucleic acid based-component, and assaying the ligation or cleavage; and

(9) isolation of (I) involving contacting a random pool of nucleic acids with a target signaling molecule and a reporter molecule, and selecting for (I) that can catalyze a chemical reaction involving covalent attachment of at least a portion of RM to (I), ligation of at least a portion of RM to (I), or phosphorylation/dephosphorylation of a non-oligonucleotide-based portion of RM by (I), in the presence of the target signaling molecule.

USE - The computer is useful for detecting a target signaling agent or to provide desired output (claimed). (I) is useful in diagnostic applications to identify the presence of genes and/or gene products which are indicative of a particular genotype and/or phenotype, for e.g. a disease state, infection, or related condition within patients, and for diagnosis of disease states or physiological abnormalities related to the expression of viral, bacterial or cellular RNA and DNA. (I) is useful in nucleic acid-based electronics, including nucleic acid-based circuits and computers, as molecular switches, and as molecular sensors capable of modulating the activity, function or physical properties of other molecules. (I) is useful for the detection of specific target signaling molecules such as nucleic acid molecules, proteins, peptides, antibodies, polysaccharides, lipids, sugars, metals, microbial or cellular metabolites, analytes, pharmaceuticals, and other organic and inorganic molecules. (I) is useful in assays to assess the specificity, toxicity and effectiveness of various small molecules, nucleoside analogs, or non-nucleic acid drugs, or their doses against validated targets or biochemical pathways, in assays involved in high-throughput screening, biochemical assays, including cellular assays, in vivo animal models, clinical trial management, and for mechanistic studies in human clinical studies. (I) is useful for the **detection of pathogens**, biochemicals, for example proteins, organic compounds, or inorganic compounds, in humans, plants, animals, or samples from it, in connection with environmental testing or detection of biohazards and in functional genomics, target validation and discovery, agriculture or diagnostics, for example the diagnosis of disease, or the prevention or treatment of human or animal disease. (I) is useful for detection and/or amplification of specific target signaling agents, and target signaling molecule in a system, and in DNA computing applications and nucleic acid-based electronics utilized in nucleic acid computing applications.

Dwg.0/29

L20 ANSWER 4 OF 14 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 2001-611185 [70] WPIDS
 DOC. NO. NON-CPI: N2001-456251
 DOC. NO. CPI: C2001-182519
 TITLE: **Detector for detecting a**
 selected **pathogen** in a sample, comprises

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a **substrate** with a detection region on its surface, a blocking layer that blocks non-specific adsorption of pathogens, and a **binder** that **binds** the selected pathogen.

DERWENT CLASS: A89 B04 D16 J04 S03
INVENTOR(S): ABBOTT, N L; SKAIFE, J J
PATENT ASSIGNEE(S): (WISC) WISCONSIN ALUMNI RES FOUND
COUNTRY COUNT: 93
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001061357	A2	20010823	(200170)*	EN	52
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE					
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG					
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ					
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU					
ZA ZW					
AU 2001043157	A	20010827	(200176)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001061357	A2	WO 2001-US4858	20010215
AU 2001043157	A	AU 2001-43157	20010215

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001043157	A Based on	WO 200161357

PRIORITY APPLN. INFO: US 2000-182941P 20000216

AN 2001-611185 [70] WPIDS

AB WO 200161357 A UPAB: 20011129

NOVELTY - A detector (20) (I) for **detecting** the presence of a selected **pathogen** (II), comprises a **substrate** (S) with a detection region (DR) on its surface, where DR has microstructures comprising grooves that align liquid crystal material (LCM), a blocking layer on DR that does not disrupt the alignment of LCM but blocks non-specific adsorption of (II) on its surface, and a **binder** that **binds** (II), on DR.

DETAILED DESCRIPTION - A detector (20) comprises:

(a) a **substrate** (21) (S) with DR (23) on its surface, DR having microstructures comprising grooves formed in it, that will align LCM in contact with it, where the width and depth of the grooves (26) are in the range of 10 micro m or less;

(b) a blocking layer (BL) on the surface of DR that does not disrupt the alignment of LCM in contact with it, BL blocking non-specific adsorption of (II) to the surface; and

(c) a **binder** (B) on the surface of DR, that specifically **binds** to (II).

INDEPENDENT CLAIMS are also included for the following:

(1) detecting the presence of (II) in a sample, by providing

(S) having DR comprising a surface comprising microstructures including depressions of width and depth sized to align LCM in contact with it, where the depressions are of a size sufficient to be occupied by (II), and treating the surface of DR to provide a layer on it that blocks non-specific **binding** of (II) to the surface and including (B) that specifically **binds** (II) to be detected; and

(2) a **kit** for use in the detection of (II) in a sample, comprising (S), BL, (B) and LCM, that will be aligned when in contact with DR in the absence of (II) bound to DR.

USE - (I) is useful for detecting the presence of a selected microscopic pathogen, e.g. a virus or bacteria, in a sample, by providing a **substrate** having DR comprising a surface comprising microstructures including depressions of width and depth sized to align LCM, the surface of DR treated to block non-specific **binding** of pathogens to the surface and having (B) that specifically **binds** the selected **pathogen** to be **detected**, applying a sample to be tested for the presence of the specific pathogen to the surface of DR and applying LCM to DR that will be aligned by the microstructures on the surface of the **substrate** in the absence of **binding** particles of the pathogen to the surface of the **substrate**, where the presence of selected pathogen in the sample will be manifested by a visually observable disordering of LCM caused by the pathogen particles bound to the **substrate** in the depressions (claimed).

ADVANTAGE - Microscopic **pathogens** are **detected** in a simple and efficient manner. The **pathogen** can be **detected** by personnel who have minimal training, and without requiring specialized laboratory facilities or equipment. Detection is provided with accurate readout in a manner that is faster than conventional serological tests. It is possible to **screen** for multiple microscopic **pathogens** in a single test. The method can be embodied in an addressable microarray, allowing the sample from a patient or from the environment to be simultaneously probed for a very broad spectrum of pathogenic agents. Moreover, by immobilizing antibodies to viral, rickettsial and bacterial surface proteins, it is possible to identify tissue targets and routes of entry of weaponized recombinant organisms faster than genetic analysis. The apparatus may also serve as a pre-screening front-end to more complex devices with embedded cells capable of detecting both biological and chemical agents.

DESCRIPTION OF DRAWING(S) - The figure shows the **detector** for **detecting** the selected **pathogen** in a sample.

Detector 20

Substrate 21

Detection region 23

Ridges 25

Grooves 26

Dwg.1/19

L20 ANSWER 5 OF 14 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 2001-602793 [68] WPIDS
 CROSS REFERENCE: 2002-010605 [63]
 DOC. NO. NON-CPI: N2001-449773
 DOC. NO. CPI: C2001-178619

09/784232

TITLE: Assaying a sample for a target polynucleotide or an amplification product using an encoded bead conjugate comprising a probe and a spectral code comprising a semiconductor nanocrystal, useful in pharmacogenetic testing and forensics.

DERWENT CLASS: B04 D16 L03 S03

INVENTOR(S): BRUCHEZ, M P; LAI, J H; PHILLIPS, V E; WATSON, A R; WONG, E Y

PATENT ASSIGNEE(S): (QUAN-N) QUANTUM DOT CORP

COUNTRY COUNT: 94

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001071043	A1	20010927	(200168)*	EN	88
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE					
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG					
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ					
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN					
YU ZA ZW					
AU 2001050937	A	20011003	(200210)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001071043	A1	WO 2001-US9242	20010322
AU 2001050937	A	AU 2001-50937	20010322

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001050937	A Based on	WO 200171043

PRIORITY APPLN. INFO: US 2000-237000P 20000929; US 2000-191227P 20000322

AN 2001-602793 [68] WPIDS

CR 2002-010605 [63]

AB WO 200171043 A UPAB: 20020213

NOVELTY - A new method (M1) for assaying a sample for a target polynucleotide or an amplification product by contacting the sample with an encoded bead conjugate comprising a probe and a spectral code comprising a semiconductor nanocrystal. The **binding** between the probe and target polynucleotide results in a change in fluorescence characteristics of the bead which is measured.

DETAILED DESCRIPTION - A new method (M1) for assaying a sample for a target polynucleotide or an amplification product by contacting the sample with an encoded bead conjugate comprising a probe and a spectral code comprising a semiconductor nanocrystal. The **binding** between the probe and target polynucleotide results in a change in fluorescence characteristics of the bead which is measured.

In detail M1, comprises contacting the sample with an unlabelled probe polynucleotide attached to a **substrate**. The sample is suspected of containing the amplification product, and

the amplification product comprises a first label and a capture sequence. The probe polynucleotide comprises first and second complementary regions and a third region located between the first and second complementary regions. The probe polynucleotide can form a stem-loop structure in which the first and second complementary regions hybridize to each other to form a stem and the third region forms a loop. At least a part of the third region is complementary to at least a part of the capture sequence, and the probe polynucleotide can preferentially hybridize to the amplification product and therefore disrupt formation of the stem-loop structure under at least one set of hybridization conditions. The method then determines if the first label is associated with the **substrate** to determine if the amplification product is present in the sample.

INDEPENDENT CLAIMS are included for the following:

(1) an amplification product assay complex comprising a **substrate** comprising an unlabelled probe polynucleotide hybridized to an amplification product from a target polynucleotide, where the amplification product comprises a capture sequence and a label, where the probe polynucleotide comprises first and second complementary regions and a third region located between the first and second complementary regions, and further where the probe polynucleotide can form a stem-loop structure in which the first and second complementary regions hybridize to each other to form a stem and the third region forms a loop, where at least a part of the third region is hybridized to at least a part of the capture sequence, and where the stem-loop structure is not formed as a result of the probe polynucleotide being hybridized to the amplification product;

(2) a method of forming an amplification product assay complex;

(3) an amplification product assay array (A1);

(4) a **kit** comprising:

(a) a **substrate** attached to an unlabeled probe polynucleotide comprising first and second complementary regions and a third region located between the first and second complementary regions, where the probe polynucleotide can form a stem-loop structure in which the first and second complementary regions hybridize to each other to form a stem and the third region forms a loop, where at least a part of the third region is complementary to at least a part of a capture sequence of an amplification product from a target polynucleotide, where the unlabeled probe polynucleotide can preferentially hybridize to the amplification product and thereby disrupt formation of the stem-loop structure under at least one set of hybridization conditions;

(b) a reagent for incorporating a label into the amplification product;

(c) a housing for retaining the **substrate** and the reagent; and

(d) instructions provided with the housing that describe how to use the components of the **kit** to assay a sample for the amplification product; and

(5) an article of manufacture, comprising a **substrate** attached to an unlabeled probe polynucleotide, where the probe comprises first and second complementary regions and a third region located between the first and second complementary regions, and the probe can form a stem-loop structure in which the first and second complementary regions hybridize to each other to form a stem and the third region forms a loop.

USE - The methods are useful in pharmacogenetic testing, forensics, paternity testing and in screening for hereditary disorders. The methods are also useful for studying alterations of gene expression in response to a stimulus. Other applications include human population genetics, analyses of human evolutionary history, and characterization of human haplotype diversity. The methods can also be used to detect immunoglobulin class switching and hypervariable mutation of immunoglobulins, to detect polynucleotide sequences from contaminants or pathogens including bacteria, yeast and viruses, for HIV subtyping to determine the particular strains or relative amounts of particular strains infecting an individual and to detect single nucleotide polymorphisms, which may be associated with particular alleles or subsets of alleles.

The methods are also useful for mini-sequencing, and for detection mutations, including single nucleotide polymorphisms (SNPs), insertions, deletions, transitions, transversions, inversions, frame shifts, triplet repeat expansion, and chromosome rearrangements. The methods can be used to detect nucleotide sequences associated with increased risk of diseases or disorders, including cystic fibrosis, Tay-Sachs, sickle-cell anemia, etc.

ADVANTAGE - The methods are useful in multiple settings where different conjugates were used to assay for different target polynucleotides. The large number of distinguishable semiconductor nanocrystal labels allows for the simultaneous analysis of multiple labeled target polynucleotides, along with multiple different encoded bead conjugates.

The assay can be implemented in a homogenous format. This allows for higher assay throughput due to fewer manipulations of the sample and decreased cross-contamination resulting in more reliable assays and less downtime from cross-contamination.
Dwg.0/15

L20 ANSWER 6 OF 14 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 2001-451868 [48] WPIDS
 CROSS REFERENCE: 2001-061976 [07]; 2001-656926 [66]
 DOC. NO. CPI: C2001-136537
 TITLE: Detecting a nucleic acid useful in e.g. diagnosing genetic, bacterial or viral diseases, by contacting the nucleic acid with oligonucleotides attached to nanoparticles and having sequences complementary a portion of the nucleic acid.
 DERWENT CLASS: B04 D16
 INVENTOR(S): ELGHANIAN, R; LETSINGER, R L; LI, Z; MIRKIN, C A; MUCIC, R C; STORHOFF, J J; TATON, T A
 PATENT ASSIGNEE(S): (NANO-N) NANOSPHERE INC
 COUNTRY COUNT: 93
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001051665	A2	20010719	(200148)*	EN	229
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE					
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG					
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ					
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU					

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ZA ZW
AU 2001032795 A 20010724 (200166)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001051665	A2	WO 2001-US1190	20010112
AU 2001032795	A	AU 2001-32795	20010112

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001032795	A Based on	WO 200151665

PRIORITY APPLN. INFO: US 2001-760500 20010112; US 2000-176409P
20000113; US 2000-200161P 20000426; US
2000-603830 20000626

AN 2001-451868 [48] WPIDS
CR 2001-061976 [07]; 2001-656926 [66]
AB WO 200151665 A UPAB: 20011227

NOVELTY - Detecting a nucleic acid having at least 2 portions, comprises contacting the nucleic acid with one or more types of nanoparticles having oligonucleotides attached to the nanoparticles and having sequences complementary to portions of the sequence of the nucleic acid.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) methods of detecting a nucleic acid having at least 2 portions comprising:

(a) contacting the nucleic acid with one or more types of nanoparticles having oligonucleotides attached to the nanoparticles and having sequences complementary to portions of the sequence of the nucleic acid, under conditions allowing the hybridization of the oligonucleotides on the nanoparticles with the nucleic acid; and

(b) observing a detectable change brought about by hybridization of the oligonucleotides on the nanoparticles with the nucleic acid;

(2) kits comprising at least one container holding a composition containing at least 2 types of nanoparticles having oligonucleotides attached to it, where the first type has a sequence complementary to the sequence of a first portion of a nucleic acid, and the oligonucleotides on the second type of nanoparticles has a sequence complementary to the sequence of a second portion of the nucleic acid;

(3) an aggregate probe comprising at least 2 types of nanoparticles having oligonucleotides attached to it, the nanoparticles of the aggregate probe are bound to each other as a result of the hybridization of some of the oligonucleotides attached to them, and at least one of the nanoparticles of the aggregate probe having oligonucleotides attached to it which have a hydrophobic group on the end not attached to the nanoparticles;

(4) a kit comprising a container holding a core probe having at least 2 types of nanoparticles having oligonucleotides attached to it and the nanoparticles of the core probe is bound to each other as a result of the hybridization of some of the oligonucleotides attached to them;

- (5) a core probe comprising at least 2 types of nanoparticles having oligonucleotides attached to it;
- (6) a **substrate** having nanoparticles attached to it;
- (7) a metallic or semiconductor nanoparticle having oligonucleotides attached to it which are labeled with fluorescent molecule at the end not attached to the nanoparticle;
- (8) a satellite probe comprising a particle having attached oligonucleotides, and probe oligonucleotides hybridized to the oligonucleotides attached to the nanoparticles;
- (9) methods of nanofabrication;
- (10) nanomaterials or nanostructures composed of nanoparticles having oligonucleotides attached to it and being held by oligonucleotide connectors;
- (11) a composition comprising at least 2 types of nanoparticles having oligonucleotides attached to it;
- (12) an assembly of containers holding nanoparticles having oligonucleotides attached to them;
- (13) a nanoparticle having multiple oligonucleotides attached to it;
- (14) a method of separating a selected nucleic acid having at least 2 portions from other nucleic acid;
- (15) methods of **binding** oligonucleotides to charged nanoparticles to produce stable nanoparticle-oligonucleotide conjugates;
- (16) nanoparticle-oligonucleotide conjugates which are nanoparticles having oligonucleotides attached to them, where the oligonucleotides are present on the surface of the nanoparticles at a surface density sufficient so that the conjugates are stable, and at least some of the oligonucleotides have sequences complementary to at least one portion of the nucleic acid or oligonucleotide sequence;
- (17) nanoparticles having oligonucleotides attached to them which comprises at least one type of recognition oligonucleotides having a sequence complementary to a portion of the nucleic acid sequence, and a type of diluent oligonucleotides; and
- (18) methods of detecting a nucleic acid.

USE - The methods are useful for detecting nucleic acids, natural or synthetic, and modified or unmodified. The methods may also be applied in the diagnosis of genetic, bacterial and viral diseases, in forensics, in DNA sequencing, for paternity testing, for cell line authentication, and for monitoring gene therapy. The methods are further useful in research and analytical laboratories in DNA sequencing, in the field to **detect** the presence of specific **pathogens**, for quick identification of an infection to assist in drug prescription, and in homes and health centers for inexpensive first-line screening.

ADVANTAGE - The methods, which are based on observing color change with the naked eye, are cheap, fast, simple, robust (reagents are stable), do not require specialized or expensive equipment, and little or no instrumentation is required.

Dwg.0/46

L20 ANSWER 7 OF 14 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 2001-282093 [29] WPIDS
 DOC. NO. NON-CPI: N2001-201034
 DOC. NO. CPI: C2001-086026
 TITLE: Detection of antibodies in samples useful e.g. to measure antibody levels in serum to diagnose

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disease, determine vaccination efficiency or detect antibodies to recombinant proteins, by inhibition enzyme linked immunosorbant assay.

DERWENT CLASS: B04 D16 S03
INVENTOR(S): ABRAMS, M A
PATENT ASSIGNEE(S): (PHAA) PHARMACIA CORP
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001027621	A2	20010419	(200129)*	EN	43
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE					
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG					
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ					
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN					
YU ZA ZW					
AU 2000078255	A	20010423	(200147)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001027621	A2	WO 2000-US21992	20001002
AU 2000078255	A	AU 2000-78255	20001002

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2000078255	A Based on	WO 200127621

PRIORITY APPLN. INFO: US 1999-158090P 19991007

AN 2001-282093 [29] WPIDS

AB WO 200127621 A UPAB: 20010528

NOVELTY - Antibodies in a sample are detected using a new type of enzyme linked immunosorbant assay (ELISA) termed an inhibition enzyme linked immunosorbant assay (iELISA), in which purified labeled antigen and a test sample comprising an antibody are incubated with a surface coated with a purified second antibody, and antigen-binding inhibition is measured.

DETAILED DESCRIPTION - Detecting (M1) a first antibody in a sample comprises:

- (a) coating a binding surface/support with a purified second antibody to form an antibody-coated surface;
- (b) combining a predetermined amount of a purified labeled antigen and the test sample containing the first antibody;
- (c) adding to the antibody-coated surface;
- (d) incubating; and
- (e) measuring antigen-binding inhibition.

An INDEPENDENT CLAIM is also included for a test kit for use with (M1), comprising an insoluble binding surface/support with a purified second antibody bound to it, a purified and labeled antigen specifically binding to and saturating the second antibody and optionally washing reagents, incubating reagents and label substrate.

USE - The method is useful to detect antibodies in samples, especially in serum from mammals, especially humans (claimed), useful e.g. to screen for elevated concentrations of endogenous antibodies to known pathogens to diagnose disease, to test sera from vaccinated humans/other animals to determine whether titers are sufficient to give protection against infection, or to detect endogenous antibodies against recombinant proteins (e.g. therapeutic proteins) which could have a neutralizing effect on the drug and drug target. It also enables detection of exogenous antibodies, useful e.g. to evaluate efficacy in disease treatment, and detection of antibodies other sample media e.g. tissue culture media, purification samples, biological fluids such as urine and saliva. The **kits** are especially useful for field detection of serum antibody levels, useful e.g. epidemiologically to **determine** particular species infected by a **pathogen** and/or rates of spread.

ADVANTAGE - Sensitivity of antibody measurements is increased relative to previous immunoassay techniques by eliminating background interference associated with **binding** of non-specific immunoglobulin. The method also increases specificity and reduces assay time and labor by incubating purified second antibody and labeled antigen simultaneously with test serum, therefore eliminating the secondary detection step normally required.

Dwg.0/9

L20 ANSWER 8 OF 14 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 2001-248306 [26] WPIDS
 DOC. NO. NON-CPI: N2001-176898
 DOC. NO. CPI: C2001-075067
 TITLE: Detecting test substances useful for
 detecting, e.g. **pathogens**,
 comprises adding test liquid, enzyme-labeled
 specific **binding** substance and
 substrate liquid to their respective
 addition parts on immunological inspection piece.
 DERWENT CLASS: B04 D16 S03
 PATENT ASSIGNEE(S): (NITL) NITTO DENKO CORP
 COUNTRY COUNT: 1
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 2001013140	A	20010119	(200126) *		8

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 2001013140	A	JP 1999-182412	19990628

PRIORITY APPLN. INFO: JP 1999-182412 19990628

AN 2001-248306 [26] WPIDS

AB JP2001013140 A UPAB: 20010515

NOVELTY - Detecting test substance (T) comprises using base material having fixed part (I) comprising (T) coupled to first immunological reagent (R1), **substrate** (S) addition part (AP) (II),

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enzyme(E)-labeled specific **binding** substance (III) which couples (R2) and (E), to (T). Test liquid-(III) AP is arranged between (I) and (II). The test liquid, (III), (S)-liquid are added in this order in their respective APs.

DETAILED DESCRIPTION - Detecting (T) involves use of immunological inspection piece which has water absorptive base material on which is present, a fixed part (I) comprising (T) to which a first immunological reagent (R1) is coupled, **substrate** (S) liquid addition part (II) for adding (S), an enzyme(E)-labeled specific **binding** substance (III) which couples a second immunological reagent (R2) and enzyme, to (T). The addition part of (III) (1) is arranged between (I) and (II).

An INDEPENDENT CLAIM is also included for a **kit** for detecting substances.

USE - For **detecting** test substances such as **pathogens**.

ADVANTAGE - The method is rapid and simple.
Dwg.0/2

L20 ANSWER 9 OF 14 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2001-244826 [25] WPIDS
DOC. NO. CPI: C2001-073497
TITLE: Novel linear isothermal nucleic acid amplification of polynucleotide sequences by using single RNA/DNA composite primer, which forms basis for amplification of target sequence and optionally a termination sequence.
DERWENT CLASS: B04 D16
INVENTOR(S): KURN, N
PATENT ASSIGNEE(S): (NUGE-N) NUGEN TECHNOLOGIES INC; (KURN-I) KURN N
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001020035	A2	20010322	(200125)*	EN	115
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE					
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG					
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ					
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN					
YU ZA ZW					
US 6251639	B1	20010626	(200138)		
AU 2000074835	A	20010417	(200140)		
US 2001034048	A1	20011025	(200170)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001020035	A2	WO 2000-US25104	20000913
US 6251639	B1	US 1999-153604P	19990913
	Provisional	US 2000-175780P	20000112
		US 2000-660877	20000913
AU 2000074835	A	AU 2000-74835	20000913
US 2001034048	A1	US 1999-153604P	19990913
	Provisional	US 2000-175780P	20000112

Searcher : Shears 308-4994

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Cont of	US 2000-660877	20000913
	US 2001-870433	20010529

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2000074835	A Based on	WO 200120035
US 2001034048	A1 Cont of	US 6251639

PRIORITY APPLN. INFO: US 2000-175780P 20000112; US 1999-153604P
19990913; US 2000-660877 20000913; US
2001-870433 20010529

AN 2001-244826 [25] WPIDS

AB WO 200120035 A UPAB: 20010508

NOVELTY - Amplifying (I) polynucleotide (PN) sequence complementary to target PN sequence (T) is new.

DETAILED DESCRIPTION - (I) comprises:

(1) hybridizing a single stranded DNA template comprising the target sequence with a composite primer comprising an RNA portion and a 3' DNA portion;

(2) optionally hybridizing a polynucleotide comprising a termination polynucleotide sequence to a region of the template which is 5' with respect to hybridization of the composite primer to the template;

(3) extending the composite primer with DNA polymerase;

(4) cleaving the RNA portion of the annealed composite primer with an enzyme that cleaves RNA from an RNA/DNA hybrid such that another composite primer can hybridize to the template and repeat primer extension by strand displacement where multiple copies of the complementary sequence of the target sequence are produced.

INDEPENDENT CLAIMS are also included for the following:

(1) amplifying (II) a target polynucleotide sequence comprising:

(a) Steps (1)-(4) of (I); and

(b) hybridizing a polynucleotide comprising a propromoter and a region which hybridizes to the displaced primer extension product under conditions which allow transcription to occur by RNA polymerase, such that RNA transcripts are produced comprising sequences complementary to the displaced primer extension products, where multiple copies of the target sequence are produced;

(2) characterizing (III) a sequence of interest in a target polynucleotide comprising conducting the methods (I) and (II) where the sequence of an RNA portion of the composite primer is known and where:

(a) production of detectably fewer amplification products from the template as compared to the amount of amplification products from a reference template which comprises a region complementary to the RNA portion of the composite primer indicates that the target polynucleotide does not comprise a sequence complementary to the RNA portion of the composite primer and is a sequence variant with respect to the sequence complementary to the RNA portion of the composite primer; or

(b) production of detectably more amplification products from the template as compared to the amount of amplification products from a reference template which does not comprise a region which is complementary to the RNA portion of the composite primer indicates that the target polynucleotide comprises a sequence complementary to

the RNA portion of the composite primer and is not a sequence variant with respect to the sequence complementary to the RNA portion of the composite primer;

(3) sequencing a target nucleotide sequence comprising:

(a) Steps (1) and (2) of (I);

(b) extending the composite primer to a termination site with DNA polymerase and a mixture of dNTPs and dNTP analogs, such that primer extension is terminated upon incorporation of a dNTP analog;

(c) cleaving the RNA portion of the annealed composite primer with an enzyme that cleaves RNA from an RNA/DNA hybrid such that another composite primer can hybridize to the template and repeat primer extension by strand displacement, where multiple copies of the complementary sequence of the target sequence are produced of varying lengths; and

(d) analyzing the product of (a) through (d) to determine the sequence;

(4) sequencing a target nucleotide sequence comprising:

(a) Steps (1)-(4) of (I);

(b) hybridizing a polynucleotide comprising a propromoter and a region which hybridizes to the displaced primer extension product under conditions such that transcription occurs from the extension product by RNA polymerase, using a mixture of rNTPs and rNTP analogs, such that RNA transcripts are produced comprising sequences complementary to the displaced primer extension products, and such that transcription is terminated upon incorporation of an rNTP analog, whereby multiple copies of the target sequence are produced of varying lengths;

(c) analyzing the product of steps (a) through (e) to determine the sequence;

(5) detecting a mutation in a target polynucleotide comprising:

(a) conducting (I) or (II); and

(b) analyzing the amplified products for single stranded conformation, where a difference in conformation as compared to a reference single stranded polynucleotide indicates a mutation in the target polynucleotide;

(6) producing a microarray, by conducting (I) and (II) and attaching the amplified products onto a solid **substrate** to make a microarray of the amplified products;

(7) a composition comprising a complex of CP and template strand, a template switch oligonucleotide (TSO), a blocking sequence and/or a propromoter template oligonucleotide (PTO);

(8) a reaction mixture comprising PN template, CP and DNA polymerase;

(9) a kit for amplification of (T), comprising CP;

and

(10) a system for amplifying (T) or its complement comprising CP, DNA polymerase and an enzyme which cleaves RNA from an RNA/DNA hybrid.

USE - The method is useful for isothermal amplification of a target nucleotide sequence or a sequence complementary to the target sequence. Linear isothermal amplification are useful for sequencing of a defined nucleic acid target sequence and for detecting mutation in target nucleotide by analyzing the amplified products for single stranded conformation, where a difference in conformation as compared to a reference single stranded PN indicates a mutation in the target PN (claimed). The methods are also useful for qualitative detection of a nucleic acid sequence, quantitative determination of the amount of the target nucleic acid sequence, detection of the

presence of defined sequence alterations, as needed for genotyping and detection of presence of various pathogens in a single biological sample. The amplified nucleic acid products are useful for genotyping and microarray preparation.

ADVANTAGE - The method does not require thermocycling in that amplification can be performed isothermally and facilitates automation and adaptation for high throughput amplification and/or analysis of nucleic acids. Sequencing based on the amplification methods are simplified by the ability to perform the reactions isothermally. The isothermal reaction is faster than that afforded by thermal cycling. Various target sequences and polymorphic sites in a single genomic DNA sample can be amplified simultaneously in a single reaction mixture.
Dwg.0/10

L20 ANSWER 10 OF 14 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 2001-146292 [15] WPIDS
 CROSS REFERENCE: 2000-181990 [16]; 2000-549271 [49]
 DOC. NO. NON-CPI: N2001-107026
 DOC. NO. CPI: C2001-043201
 TITLE: **Detection of pathogens, DNA or RNA useful e.g. to detect human pathogens** such as tuberculosis in serum by detecting both test and control materials using a column having a snare for each of the materials.
 DERWENT CLASS: B04 D16 S03
 INVENTOR(S): CHEN, H
 PATENT ASSIGNEE(S): (ACGT-N) ACGT MEDICO INC
 COUNTRY COUNT: 1
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 6174733	B1	20010116	(200115)*		20

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 6174733	B1	US 1998-93532	19980608

PRIORITY APPLN. INFO: GB 1997-11941 19970609

AN 2001-146292 [15] WPIDS
 CR 2000-181990 [16]; 2000-549271 [49]
 AB US 6174733 B UPAB: 20010317

NOVELTY - A detection method for detecting the presence of at least two predetermined materials comprises detecting two predetermined materials, one of which is a control, using a column which has a snare for each of the materials.

DETAILED DESCRIPTION - The method comprises:

- (a) introducing a test sample comprising at least one control material into a column having a snare for each predetermined material, the snare having a capture material which binds specifically with the associated predetermined material;
- (b) washing the test column to remove unbound materials; and
- (c) detecting bound materials on each of the snares, optionally by adding a label for each of the bound materials to form labeled

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bound materials and detecting labeled bound materials.

INDEPENDENT CLAIM are also included for:

(1) a column for analyzing at least one pathogen by the method, comprising at least two spatially separated snares, one having a control capture material and the other a **pathogen** capture material to enable **detection** of control material and a **pathogen** of interest; and

(2) a **kit** which comprises:

(a) a column for analysis of at least one pathogen in which the column has at least two snares. and the snares are separated spatially one from another so that the snares are not in contact with one another, on of the snares having on it a first control capture material for detecting the presence of a first control material, and the other of the snares having on them a **pathogen** capture material for **detecting** a **pathogen**; and

(b) reagents for detecting the presence of materials selected from:

(i) reagents for **detecting** the presence of the control **pathogen** and the test pathogen; and

(ii) reagents for detecting the presence of the first control capture material and the pathogen capture material after the first control capture material and the pathogen capture material have been bound and then unbound from the first control material and the pathogen material.

USE - The method is useful to **detect** **pathogens** e.g. human **pathogens** such as tuberculosis, especially by **detecting** proteins, DNA or RNA in serum. For example, a DNA method may be used to diagnose herpes simplex virus and an RNA method to diagnose HIV. The method may also be useful in veterinary medicine and to detect chemicals such as drugs, carcinogens, pollutants etc.

ADVANTAGE - Unlike previous **pathogen** **detection** techniques, the method is rapid and is sensitive to any error in the method because of the inclusion of a control snare.

Dwg.0/11

L20 ANSWER 11 OF 14 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1998-568229 [48] WPIDS
DOC. NO. NON-CPI: N1998-442113
DOC. NO. CPI: C1998-170698
TITLE: Assay for e.g. pathogen(s), toxins, lymphocytes or cancer cells - using polyvinylidene di fluoride surface to which lipid based receptor is attached.
DERWENT CLASS: A96 B04 D16 S03
INVENTOR(S): CHATTERJEE, S
PATENT ASSIGNEE(S): (UYJO) UNIV JOHNS HOPKINS
COUNTRY COUNT: 80
PATENT INFORMATION:

PATENT NO	KIND DATE	WEEK	LA	PG
WO 9835233	A1 19980813 (199848)*	EN		33
RW: AT BE CH DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW				
NL OA PT SD SE SZ UG ZW				
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI				
GB GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT				

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LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL
TJ TM TR TT UA UG UZ VN YU ZW
AU 9862627 A 19980826 (199902)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9835233	A1	WO 1998-US1977	19980206
AU 9862627	A	AU 1998-62627	19980206

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9862627	A Based on	WO 9835233

PRIORITY APPLN. INFO: US 1997-37553P 19970211; US 1997-38145P
19970210

AN 1998-568229 [48] WPIDS

AB WO 9835233 A UPAB: 19981210

Assaying a test sample for the presence of a pathogen comprises: (a) applying a glycosphingolipid (GL) which is a receptor for a characteristic component (CC) of the pathogen and which specifically **binds** the (CC) to a polyvinylidene difluoride (PVDF) surface; (b) applying a liquid reaction medium comprising the test sample to the surface; (c) removing excess liquid medium from the surface; (d) incubating the surface with an antibody which specifically **binds** to the CC and (e) detecting the presence of the antibody on the surface which indicates the presence of CC in the test sample. Also claimed is a **kit** for **detecting a pathogen** which comprises a PVDF surface, a purified sample of a GL which specifically **binds** to a characteristic component of the pathogen and an antibody which specifically **binds** to the characteristic component of the pathogen.

The characteristic component is preferably a bacterial toxin (BT). The BT is preferably Vibrio cholera and the GL is GM1 ganglioside, the BT is Staphylococcal enterotoxin-B and the GL is digalactosylceramide, the BT is Staphylococcal enterotoxin-A and the GL is globotriosylamide, the BT is Verocytotoxin-2 and the GL is globotriosylceramide, the BT is Shigella toxin and the GL is lactosylceramide, the BT is Shiga toxin and the GL is globoside, digalactosylceramide and/or globotriosyl ceramide, the BT is botulinum toxin and the GL is disialoganglioside or trisialoganglioside or the BT is tetanus toxin and the GL is trisialoganglioside. The pathogen is a bacterium.

USE - The process may be used for **detecting pathogens** including bacteria or viruses, toxins, lymphocytes, neutrophils, platelets or cancer cells including colon carcinoma and Burkitt's tumour, in samples, including food, urine, serum or biopsies.

ADVANTAGE - The PVDF surface is a good **substrate** for receptor **binding** assays. The process is highly specific and does not require special equipment. Results can be obtained within a few hours with the naked eye. As the lipid-based receptors have a long shelf-life, they can be easily stored and used for a long period.

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Dwg.0/7

L20 ANSWER 12 OF 14 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1998-532018 [45] WPIDS
CROSS REFERENCE: 2001-190945 [14]
DOC. NO. CPI: C1998-159730
TITLE: Reagent for detecting bacteria and fungi, in e.g.
in food - comprises labelled murein **binding**
polypeptide and labelled antibiotic for detecting
bound polypeptide.
DERWENT CLASS: A96 B04 C07 D16
INVENTOR(S): LAINE, R A; LO, W C J
PATENT ASSIGNEE(S): (LOUU) UNIV LOUISIANA STATE & AGRIC & MECH COLL;
(LAIN-I) LAINE R A; (LOWC-I) LO W C J; (ANOM-N)
ANOMERI INC; (LOUU) UNIV LOUISIANA STATE
COUNTRY COUNT: 80
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9842864	A1	19981001	(199845)*	EN	110
RW: AT BE CH DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW					
NL OA PT SD SE SZ UG ZW					
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI					
GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD					
MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR					
TT UA UG US UZ VN YU ZW					
AU 9869401	A	19981020	(199909)		
US 5935804	A	19990810	(199938)		
EP 980439	A1	20000223	(200015)	EN	
R: CH DE DK FI FR GB IT LI NL SE					
US 6090573	A	20000718	(200037)		
US 6159719	A	20001212	(200067)		
JP 2002503093	W	20020129	(200211)		138

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9842864	A1	WO 1998-US5580	19980320
AU 9869401	A	AU 1998-69401	19980320
US 5935804	A	US 1997-823293	19970321
EP 980439	A1	EP 1998-915148	19980320
		WO 1998-US5580	19980320
US 6090573	A Cont of	US 1997-823293	19970321
		US 1999-261664	19990303
US 6159719	A Div ex	US 1997-823293	19970321
		US 1999-261665	19990303
JP 2002503093	W	JP 1998-545847	19980320
		WO 1998-US5580	19980320

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9869401	A Based on	WO 9842864
EP 980439	A1 Based on	WO 9842864
US 6090573	A Cont of	US 5935804

09/784232

US 6159719 A Div ex US 5935804
JP 2002503093 W Based on WO 9842864

PRIORITY APPLN. INFO: US 1997-823293 19970321; US 1999-261664
19990303; US 1999-261665 19990303

AN 1998-532018 [45] WPIDS

CR 2001-190945 [14]

AB WO 9842864 A UPAB: 20020215

Diagnostic reagent (A) for detecting eubacteria and fungi comprises a murein **binding** polypeptide (I) conjugated to a reporter (II). (I) is an enzyme having a site that **binds** eubacterial murein (II) or fungal murein like compounds (III) with **binding** affinity 5 multiply 10⁻⁷-5 multiply 10⁻⁹ l/mole, and has **substrate** turnover rate for (III) or (IIIa) < 3 m mole/minute.

Also new are (1) general method for detecting eubacteria and fungi from **binding** reaction with (I); (2) **kits** for this process comprising (A), solution for alkaline hydrolysis and reagent for N-acetylation of sugar residues; (3) diagnostic reagent (A') for detecting (I) bound to a murein in a cell wall consisting of antibiotic (IV) and (II); (4) **kits** for determining antibiotic sensitivity of many eubacteria and fungi in < 12 hours.

USE - Used to **detect** and quantify (**pathogenic**) bacteria and fungi in biological fluids, water, foods, air etc., also to screen for antibiotic resistance.

ADVANTAGE - The reagents can detect small numbers of killed or treated pathogens from a wide range of genera. It does not react with normal mammalian tissue and can differentiate between bacteria and fungi. They have a long shelf live, provide rapid results (usually available within 3 hours), do not require an overnight culture, are suitable for automation and do not need specialised equipment or specifically trained personnel.
Dwg.0/12

L20 ANSWER 13 OF 14 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1992-080211 [10] WPIDS

DOC. NO. NON-CPI: N1992-060054

DOC. NO. CPI: C1992-037175

TITLE: New adhesion receptors for pathogenic and opportunistic microorganisms - useful as vaccines and for diagnosis, treatment and prevention of pathogenic and opportunistic infections e.g. salmonella.

DERWENT CLASS: B04 D16 S03

INVENTOR(S): KRIVAN, H C; SAMUEL, J E

PATENT ASSIGNEE(S): (ANTE-N) ANTEX BIOLOGICS INC; (BIOC-N) BIOCARB INC;
(MICR-N) MICROCARB INC

COUNTRY COUNT: 17

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9202817	A	19920220	(199210)*		67
RW: AT BE CH DE DK ES FR GB GR IT LU NL SE					
W: CA JP					
EP 553113	A1	19930804	(199331)	EN	67
R: AT CH DE DK ES FR GB IT LI NL SE					

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JP 06501383 W 19940217 (199412) 19
 EP 553113 A4 19940330 (199530)
 US 5696000 A 19971209 (199804) 20
 EP 553113 B1 19981125 (199851) EN
 R: AT CH DE DK ES FR GB IT LI NL SE
 DE 69130536 E 19990107 (199907)
 ES 2127198 T3 19990416 (199922)
 CA 2095642 C 19991214 (200018) EN

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 553113	A1	EP 1991-916508	19910729
		WO 1991-US5179	19910729
JP 06501383	W	JP 1991-515061	19910729
		WO 1991-US5179	19910729
EP 553113	A4	EP 1991-916508	
US 5696000	A Div ex	US 1990-562002	19900802
	Cont of	US 1993-78660	19930621
		US 1994-275702	19940718
EP 553113	B1	EP 1991-916508	19910729
		WO 1991-US5179	19910729
DE 69130536	E	DE 1991-630536	19910729
		EP 1991-916508	19910729
		WO 1991-US5179	19910729
ES 2127198	T3	EP 1991-916508	19910729
CA 2095642	C	CA 1991-2095642	19910729
		WO 1991-US5179	19910729

FILING DETAILS:

PATENT NO	KIND	PATENT NO
EP 553113	A1 Based on	WO 9202817
JP 06501383	W Based on	WO 9202817
EP 553113	B1 Based on	WO 9202817
DE 69130536	E Based on	EP 553113
	Based on	WO 9202817
ES 2127198	T3 Based on	EP 553113
CA 2095642	C Based on	WO 9202817

PRIORITY APPLN. INFO: US 1990-562002 19900802; US 1993-78660
 19930621; US 1994-275702 19940718

AN 1992-080211 [10] WPIDS

AB WO 9202817 A UPAB: 19970716

A receptor (I) comprises a substantially pure compound e.g. GalB1-4GlcNAcB1-3GalB1-4GlcB1-1-x (R), GalB1-3GlcNAcB1-3GalB1-4GlcB1-1-x(R), GlcNAcB1-3GalB1-4GlcB1-1-x(R), GalB1-4GlcNAcB1-3GalB1-4Glc, GalB1-3GlcNAcB1-3GalB1-4Glc, GlcNAcB1-3GalB1-4Glc, GalB1-4GlcNAc-3Gal and GalB1-3-GlcNAcB1-3Gal, where x is sphingosine, hydroxylated sphingosine or saturated sphingosine, and R is H or N-acyl fatty acid derivative of x such that x(R) is a ceramide.

Also new are (1) a compsn. comprising (I) attached to an insoluble or soluble **substrate**; (2) a method for detecting microorganisms in a sample comprising:- (a) contacting the sample with (I) for a period of time and under conditions sufficient for the receptors to bind the microorganisms; and (b) assaying

for complexes formed; (3) a diagnostic kit for the detection of pathogenic or opportunistic microorganisms comprising the compsn. of (1) and means for detecting or measuring the formation of complexes.

USE/ADVANTAGE - (I) can be used in various forms to detect microorganisms, remove them from liquids and treat infections caused by them. It inhibits their adhesion to mammalian cells if suspended in a liquid which is physiologically compatible with the cells. The adhesion protein has diagnostic and therapeutic applications and is particularly useful as a vaccine. @ (67pp Dwg.No.0/4

ABEQ EP 553113 A UPAB: 19931118

A receptor (I) comprises a substantially pure compound e.g. GalB1-4GlcNAcB1-3GalB1-4GlcB1-1-x (R), GalB1-3GlcNAcB1-3GalB1-4GlcB1-1-x(R), GlcNAcB1-3GalB1-4GlcB1-1-x(R), GalB1-4GlcNAcB1-3GalB1-4Glc, GalB1-3GlcNAcB1-3GalB1-4Glc, GlcNAB1-3GalB1-4Glc, GalB1-4GlcNAc-3Gal and GalB1-3-GlcNAcB1-3Gal, where x is sphingosine, hydroxylated sphingosine or saturated sphingosine, and R is H or N-acyl fatty acid derivative of x such that x(R) is a ceramide.

Also new are (1) a compsn. comprising (I) attached to an insoluble or soluble **substrate**; (2) a method for detecting microorganisms in a sample comprising:- (a) contacting the sample with (I) for a period of time and under conditions sufficient for the receptors to **bind** the microorganisms; and (b) assaying for complexes formed; (3) a diagnostic kit for the detection of pathogenic or opportunistic microorganisms comprising the compsn. of (1) and means for detecting or measuring the formation of complexes.

USE/ADVANTAGE - (I) can be used in various forms to detect microorganisms, remove them from liquids and treat infections caused by them. It inhibits their adhesion to mammalian cells if suspended in a liquid which is physiologically compatible with the cells. The adhesion protein has diagnostic and therapeutic applications and is particularly useful as a vaccine.

ABEQ US 5696000 A UPAB: 19980126

A receptor (I) comprises a substantially pure compound e.g. GalB1-4GlcNAcB1-3GalB1-4GlcB1-1-x (R), GalB1-3GlcNAcB1-3GalB1-4GlcB1-1-x(R), GlcNAcB1-3GalB1-4GlcB1-1-x(R), GalB1-4GlcNAcB1-3GalB1-4Glc, GalB1-3GlcNAcB1-3GalB1-4Glc, GlcNAB1-3GalB1-4Glc, GalB1-4GlcNAc-3Gal and GalB1-3-GlcNAcB1-3Gal, where x is sphingosine, hydroxylated sphingosine or saturated sphingosine, and R is H or N-acyl fatty acid derivative of x such that x(R) is a ceramide.

Also new are (1) a compsn. comprising (I) attached to an insoluble or soluble **substrate**; (2) a method for detecting microorganisms in a sample comprising:- (a) contacting the sample with (I) for a period of time and under conditions sufficient for the receptors to **bind** the microorganisms; and (b) assaying for complexes formed; (3) a diagnostic kit for the detection of pathogenic or opportunistic microorganisms comprising the compsn. of (1) and means for detecting or measuring the formation of complexes.

USE/ADVANTAGE - (I) can be used in various forms to detect microorganisms, remove them from liquids and treat infections caused by them. It inhibits their adhesion to mammalian cells if suspended in a liquid which is physiologically compatible with the cells. The adhesion protein has diagnostic and therapeutic applications and is particularly useful as a vaccine.

Dwg.0/4b

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L20 ANSWER 14 OF 14 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1981-50373D [28] WPIDS
TITLE: Reagent for **determining** esterase antibody
- originating from **pathogenic**
Streptococcus, includes esterase and protein.
DERWENT CLASS: B04 D16
PATENT ASSIGNEE(S): (DAIN) DAINIPPON PHARM CO LTD
COUNTRY COUNT: 13
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 56058499	A	19810521	(198128)*		
EP 61546	A	19821006	(198241)	EN	
	R:	AT BE CH DE FR GB IT LI LU NL SE			
EP 61546	B	19840704	(198427)	EN	
	R:	DE FR GB IT			
DE 3164520	G	19840809	(198433)		
US 4592995	A	19860603	(198625)		
JP 62056980	B	19871128	(198751)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 56058499	A	JP 1979-135400	19791019
EP 61546	A	EP 1981-301377	19810330
US 4592995	A	US 1983-552014	19831116

PRIORITY APPLN. INFO: JP 1979-135400 19791019

AN 1981-50373D [28] WPIDS

AB JP 56058499 A UPAB: 19930915

Reagent comprises (1) esterase (a) originated from pathogenic Streptococcus (2) protein (b) which may bond with antibody (d) to esterase (a) originated from pathogenic Streptococcus and bond with insol. carrier and (3) reagent (c) for determination of esterase (a).

Antiesterase antibody (d) i.e. antibody (d) to esterase (a) originated from **pathogenic** Streptococcus may be **determined** in an elapse time such as 1-2 hours to give very quantitatively with a little amt. of sample by means of the reagent according to this invention.

ABEQ EP 61546 B UPAB: 19930915

Reagent **kit** for determining an antibody against an esterase from pathogenic streptococci comprises (A) an esterase from pathogenic streptococci, (B) protein which can **bind** to an antibody against the esterase (A) and is bound to an insoluble carrier; and (C) a reagent for measuring an activity of the esterase (A).

(A) may be type A-I esterase, type A-II esterase, type B esterase or a mixt. The **kit** is useful for serodiagnosis of diseases due to streptococcal infections.

ABEQ US 4592995 A UPAB: 19930915

Reagent **kit** for the determination of an antibody active against esterase from pathogenic streptococci in human blood serum samples comprises (a) a standard soln. of the above esterase; (b) an immobilised protein-A (which **binds** non-specifically to the

PATENT NO	KIND	APPLICATION	DATE
US 6174733	B1	US 1998-93532	19980608

PRIORITY APPLN. INFO: GB 1997-11941 19970609

AN 2001-146292 [15] WPIDS

CR 2000-181990 [16]; 2000-549271 [49]

AB US 6174733 B UPAB: 20010317

NOVELTY - A detection **method** for detecting the presence of at least two predetermined materials comprises detecting two predetermined materials, one of which is a control, using a column which has a snare for each of the materials.

DETAILED DESCRIPTION - The **method** comprises:

- (a) introducing a test sample comprising at least one control material into a column having a snare for each predetermined material, the snare having a capture material which **binds** specifically with the associated predetermined material;
- (b) washing the test column to remove unbound materials; and
- (c) detecting bound materials on each of the snares, optionally by adding a label for each of the bound materials to form labeled bound materials and detecting labeled bound materials.

INDEPENDENT CLAIM are also included for:

- (1) a column for analyzing at least one pathogen by the **method**, comprising at least two spatially separated snares, one having a control capture material and the other a **pathogen** capture material to enable **detection** of control material and a **pathogen** of interest; and

(2) a kit which comprises:

- (a) a column for analysis of at least one pathogen in which the column has at least two snares. and the snares are separated spatially one from another so that the snares are not in contact with one another, on of the snares having on it a first control capture material for detecting the presence of a first control material, and the other of the snares having on them a **pathogen** capture material for **detecting** a **pathogen**; and

(b) reagents for detecting the presence of materials selected from:

- (i) reagents for **detecting** the presence of the control **pathogen** and the test pathogen; and
- (ii) reagents for detecting the presence of the first control capture material and the pathogen capture material after the first control capture material and the pathogen capture material have been bound and then unbound from the first control material and the pathogen material.

USE - The **method** is useful to **detect** **pathogens** e.g. human **pathogens** such as tuberculosis, especially by **detecting** proteins, DNA or RNA in serum. For example, a DNA **method** may be used to diagnose herpes simplex virus and an RNA **method** to diagnose HIV. The **method** may also be useful in veterinary medicine and to detect chemicals such as drugs, carcinogens, pollutants etc.

ADVANTAGE - Unlike previous **pathogen** **detection techniques**, the **method** is rapid and is sensitive to any error in the **method** because

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of the inclusion of a control snare.
Dwg.0/11

L13 ANSWER 20 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2001-248306 [26] WPIDS
DOC. NO. NON-CPI: N2001-176898
DOC. NO. CPI: C2001-075067
TITLE: Detecting test substances useful for
detecting, e.g. **pathogens**,
comprises adding test liquid, enzyme-labeled
specific **binding** substance and
substrate liquid to their respective
addition parts on immunological inspection piece.
DERWENT CLASS: B04 D16 S03
PATENT ASSIGNEE(S): (NITL) NITTO DENKO CORP
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 2001013140	A	20010119	(200126)*		8

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 2001013140	A	JP 1999-182412	19990628

PRIORITY APPLN. INFO: JP 1999-182412 19990628

AN 2001-248306 [26] WPIDS

AB JP2001013140 A UPAB: 20010515

NOVELTY - Detecting test substance (T) comprises using base material having fixed part (I) comprising (T) coupled to first immunological reagent (R1), **substrate** (S) addition part (AP) (II), enzyme(E)-labeled specific **binding** substance (III) which couples (R2) and (E), to (T). Test liquid-(III) AP is arranged between (I) and (II). The test liquid, (III), (S)-liquid are added in this order in their respective APs.

DETAILED DESCRIPTION - Detecting (T) involves use of immunological inspection piece which has water absorptive base material on which is present, a fixed part (I) comprising (T) to which a first immunological reagent (R1) is coupled, **substrate** (S) liquid addition part (II) for adding (S), an enzyme(E)-labeled specific **binding** substance (III) which couples a second immunological reagent (R2) and enzyme, to (T). The addition part of (III) (1) is arranged between (I) and (II).

An INDEPENDENT CLAIM is also included for a kit for detecting substances.

USE - For **detecting** test substances such as **pathogens**.

ADVANTAGE - The **method** is rapid and simple.
Dwg.0/2

L13 ANSWER 21 OF 47 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2002:820 BIOSIS
DOCUMENT NUMBER: PREV200200000820
TITLE: The type III secretion chaperone LcrH co-operates

Searcher : Shears 308-4994

with YopD to establish a negative, regulatory loop for control of Yop synthesis in *Yersinia pseudotuberculosis*.

AUTHOR(S): Francis, Matthew S. (1); Lloyd, Scott A.; Wolf-Watz, Hans

CORPORATE SOURCE: (1) Department of Molecular Biology, Umea University, S-90187, Umea: matthew.francis@cmb.umu.se Sweden

SOURCE: Molecular Microbiology, (November, 2001) Vol. 42, No. 4, pp. 1075-1093. print.
ISSN: 0950-382X.

DOCUMENT TYPE: Article

LANGUAGE: English

AB The enteropathogen *Yersinia pseudotuberculosis* is a model system used to study the molecular mechanisms by which Gram-negative pathogens secrete and subsequently translocate antihost effector proteins into target eukaryotic cells by a common type III secretion systems (TTSS). In this process, YopD (*Yersinia* outer protein D) is essential to establish regulatory control of Yop synthesis and the ensuing translocation process. YopD function depends upon the non-secreted TTSS chaperone LcrH (low-calcium response H), which is required for presecretory stabilization of YopD. However, as a new role for TTSS chaperones in virulence gene regulation has been proposed recently, we undertook a detailed analysis of LcrH. A *lcrH* null mutant constitutively produced Yops, even when this strain was engineered to produce wild-type levels of YopD. Furthermore, the YopD-LcrH interaction was necessary to regain the negative regulation of virulence associated genes (yops). This finding was used to investigate the biological significance of several LcrH mutants with varied YopD binding potential. Mutated LcrH alleles were introduced in trans into a *lcrH* null mutant to assess their impact on yop regulation and the subsequent translocation of YopE, a Rho-GTPase activating protein, across the plasma membrane of eukaryotic cells. Two mutants, LcrHK20E, E30G, I31V, M99V, D136G and LcrHE30G lost all regulatory control, even though YopD binding and secretion and the subsequent translocation of YopE was indistinguishable from wild type. Moreover, these regulatory deficient mutants showed a reduced ability to bind YscY in the two-hybrid assay. Collectively, these findings confirm that LcrH plays an active role in yop regulation that might be mediated via an interaction with the Ysc secretion apparatus. This chaperone-substrate interaction presents an innovative means to establish a regulatory hierarchy in *Yersinia* infections. It also raises the questions as to whether or not LcrH is a true chaperone involved in stabilization and secretion of YopD or a regulatory protein responsible for co-ordinating synthesis of *Yersinia* virulence determinants. We suggest that LcrH can exhibit both of these activities.

L13 ANSWER 22 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD

ACCESSION NUMBER: 2001-024865 [03] WPIDS

DOC. NO. CPI: C2001-007579

TITLE: New yfj0 polypeptides and polynucleotides encoding the yfj0 polypeptides useful for diagnosing and staging diseases, and in screening for antibacterial drugs.

DERWENT CLASS: B04 D16

INVENTOR(S): BISWAS, S; BROWN, J R; BRYANT, A; CHALKER, A F; HOLMES, D J; INGRAHAM, K A; SO, C Y; VAN HORN, S;

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PATENT ASSIGNEE(S): WARREN, R L; ZALACAIN, M; BRYANT, A P
(BISW-I) BISWAS S; (BROW-I) BROWN J R; (BRYA-I) BRYANT A; (CHAL-I) CHALKER A F; (HOLM-I) HOLMES D J; (INGR-I) INGRAHAM K A; (SOCY-I) SO C Y; (VHOR-I) VAN HORN S; (WARR-I) WARREN R L; (ZALA-I) ZALACAIN M; (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 20
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000068365	A1	20001116	(200103)*	EN	42
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: JP					
US 6245542	B1	20010612	(200135)		
US 2001023064	A1	20010920	(200156)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000068365	A1	WO 2000-US11450	20000428
US 6245542	B1	US 1999-306276	19990506
US 2001023064	A1 Div ex	US 1999-306276	19990506
		US 2000-735735	20001213

FILING DETAILS:

PATENT NO	KIND	PATENT NO
US 2001023064	A1 Div ex	US 6245542

PRIORITY APPLN. INFO: US 1999-306276 19990506; US 2000-735735 20001213

AN 2001-024865 [03] WPIDS

AB WO 200068365 A UPAB: 20010116

NOVELTY - An isolated polypeptide (I) selected from a polypeptide at least 95 % identical to a 451 residue amino acid sequence (S1) corresponding to yfjO polypeptide (Streptococcus pneumoniae tRNA methyltransferase), a polypeptide having (S1), or a polypeptide encoded by a recombinant polynucleotide (II) having a 1356 base pair sequence (S2), is new. Both sequences fully defined in the specification.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) an isolated polynucleotide selected from:
 - (a) a polynucleotide encoding a polypeptide having at least 95 % identity to (I);
 - (b) a polynucleotide having at least 95 % identity to (II) or to a polynucleotide encoding (I);
 - (c) a polynucleotide encoding (I);
 - (d) a polynucleotide having (S2);
 - (e) a polynucleotide at least 30 nucleotides in length obtained by screening an appropriate library under stringent hybridization conditions with a probe having (S2), or its fragment at least 30 nucleotides in length;
 - (f) a polynucleotide encoding a mature polypeptide expressed by

the yfjO gene comprised in the *Streptococcus pneumoniae*; or

(g) a complement of any of (a)-(f);

(2) treating an individual in need of enhanced or expression of or immunological response to (I) by administering an antagonist of (I);

(3) treating an individual having need to inhibit activity or expression of (I) by administering:

(a) an antagonist of (I);

(b) a nucleic acid that inhibits the expression of a polynucleotide encoding (I);

(c) a polypeptide that competes with the polypeptide for its ligand or receptor; or

(d) a polypeptide that induces an immunological response to (I) in the individual;

(4) diagnosing or prognosing a disease or a susceptibility to a disease in an individual related to expression or activity of (I) in an individual by:

(a) determining the presence of mutation in the nucleotide sequence encoding (I) in an organism; or

(b) analyzing for the presence or amount of the polypeptide expression in a sample from the individual;

(5) producing (I) by culturing a host cell under conditions sufficient for the production of (I);

(6) producing a host cell comprising an expression system or its membrane expressing (I) by transforming or transfecting a cell with an expression system comprising a polynucleotide capable of producing (I);

(7) a host cell or its membrane expressing (I);

(8) an antibody immunospecific for (I);

(9) screening compounds that agonize or inhibit the function of (I), comprising:

(a) measuring the **binding** of a candidate compound to (I), or fusion proteins of it using a label associated directly or indirectly with the candidate compound;

(b) measuring the **binding** of a candidate compound to (I) in the presence of a labeled competitor;

(c) testing if the candidate compound results in a signal generated by activation or inhibition of (I);

(d) mixing a candidate compound with a solution comprising (I), measuring the activity of (I) in the mixture, and comparing the activity to a standard; or

(e) detecting the effect of a candidate compound on the production of mRNA encoding (I), and (I) in cells, using e.g. enzyme linked immunosorbent assay (ELISA); and

(10) an agonist or antagonist of (I).

ACTIVITY - Cardiant; neuroprotective; dermatological; ophthalmological; osteopathic; nephrotropic.

No biological data is given.

MECHANISM OF ACTION - yfjO agonists and antagonists.

USE - The polynucleotides and polypeptides are useful as research reagents and materials in the discovery of disease treatments, in the diagnosis, staging and type of infection the pathogen has attained, in determining the response of an infectious organism to drugs, and for screening for antibacterial drugs. These may also be used to assess the binding of small molecule substrates and ligands in cells, cell-free preparations, chemical libraries and natural product mixtures, and to identify agonists and antagonists, which may be used for treating or preventing diseases, such as

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infections of the respiratory tract, lower respiratory, cardiac, gastrointestinal, eye, central nervous system, skin, kidney and urinary tract, bone and joint. They may be used to configure screening methods for detecting the effect of added compounds on the production of mRNA and/or polypeptide in cells, and in the prevention of bacterial adhesion to eukaryotic extracellular matrix proteins on in-dwelling devices or to extracellular matrix proteins in wounds. The can be used to block bacterial adhesion between eukaryotic extracellular matrix proteins and bacterial yfjO proteins that mediate tissue damage, and/or to block the normal progression of pathogenesis in infections initiated other than by the implantation of in-dwelling devices or by other surgical techniques. The polypeptides may further be used identify membrane bound or soluble receptors. The polynucleotides may be used as hybridization probes for RNA, cDNA and genomic DNA to isolate full-length cDNAs and genomic clones encoding yfjO and to isolate cDNA and genomic clones of other genes that have a high identity to a yfjO gene, in the discovery and development of antibacterial compounds, and to construct antisense sequences to control the expression of the coding sequence of interest.

Dwg.0/0

L13 ANSWER 23 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2000-664984 [64] WPIDS
DOC. NO. NON-CPI: N2000-492840
DOC. NO. CPI: C2000-201437
TITLE: New 0636 regulator polypeptides and
polynucleotides, useful for screening compounds
with antimicrobial activity and diagnosing and
treating pathogen infections.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): BURNHAM, M K R; LUNSFORD, R D; THROUP, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP
COUNTRY COUNT: 19
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000059923	A1	20001012	(200064)*	EN	38
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: JP					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000059923	A1	WO 2000-US8830	20000330

PRIORITY APPLN. INFO: US 1999-286024 19990405
AN 2000-664984 [64] WPIDS
AB WO 200059923 A UPAB: 20001209
NOVELTY - An isolated polypeptide comprising a sequence (I) of 233 amino acids, a sequence having at least 95% sequence identity to (I), or is encoded by a recombinant polynucleotide (II) having a sequence of 702 bp, is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

Searcher : Shears 308-4994

(1) an isolated polynucleotide or its complements selected from:

(a) a polynucleotide encoding a polypeptide having at least 95% identity to (I);

(b) a polynucleotide having at least 95% identity to (II) or to a polynucleotide encoding (I);

(c) a polynucleotide encoding (I), or a polynucleotide having a specified sequence of 702 bp;

(d) a polynucleotide of at least 30 nucleotides in length obtained by screening a library with a probe having a specified sequence of 702 bp, or its fragment at least 30 nucleotides in length;

(e) a polynucleotide encoding a mature polypeptide expressed by the 0636 regulator gene in *Staphylococcus aureus*;

(2) treating an individual:

(a) in need of enhanced activity or expression of or immunological response to (I) by administering an antagonist to (I); or

(b) having need to inhibit activity or expression of (I) by administering an antagonist of (I), a nucleic acid that inhibits the expression of a polynucleotide encoding (I), a polypeptide that competes with (I) for its ligand, **substrate** or receptor, or a polypeptide that induces an immunological response to (I) in the individual;

(3) diagnosing or prognosing (susceptibility to) a disease in an individual related to expression or activity of (I) by:

(a) determining the presence of a mutation in the nucleotide sequence encoding (I); or

(b) analyzing for the presence or amount of polypeptide expression in a sample from the individual;

(4) producing (I) by culturing a host cell;

(5) producing a host cell comprising an expression system or its membrane expressing (I) by transforming a cell with a vector containing a polynucleotide capable of producing (I);

(6) a host cell or its fragment expressing (I);

(7) an antibody immunospecific for (I);

(8) screening for compounds that agonize or inhibit the function of (I) by:

(a) measuring the **binding** of a candidate compound to (cells or membranes bearing) the polypeptide or a fusion protein by means of a label associated with the candidate compound, or in the presence of a labeled competitor;

(b) testing whether the candidate compound results in a signal generated by activation or inhibition of the polypeptide, using detection systems appropriate to the cells or cell membranes bearing the polypeptide;

(c) mixing a candidate compound with a solution comprising (I) to form a mixture, measuring activity of (I) in the mixture, and comparing the activity of the mixture to a standard; or

(d) detecting the effect of a candidate compound on the production of (mRNA encoding) (I) in cells, by using e.g. enzyme linked immunoassay; and

(9) an agonist or antagonist of (I).

ACTIVITY - Antibiotic; antiulcer.

MECHANISM OF ACTION - None given.

USE - The polynucleotides and polypeptides are useful for screening compounds for antimicrobial activity, which determines their role in pathogenesis of infection, dysfunction and disease, as

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research reagents and materials for discovery of treatments of and diagnostics of diseases, for assessing the binding of small molecule **substrates** and ligands in cells, cell-free preparations, chemical libraries and natural product mixtures, and for identifying membrane-bound or soluble receptors. These may further be used in the prevention of bacterial adhesion to eukaryotic extracellular matrix proteins on in-dwelling **devices** or in wounds, to block bacterial adhesion between eukaryotic extracellular matrix proteins and bacterial 0636 regulator proteins that mediate tissue damage, and/or to block the normal progression of pathogenesis in infections initiated other than by implantation of in-dwelling **devices**. The polynucleotides may also be used as hybridization probes for RNA, cDNA and genomic DNA, and in the diagnosis of the stage and type of infection the pathogen has attained, especially infections caused by *Staphylococcus aureus*. The agonists and antagonists may be used to prevent, ameliorate or correct such infections, dysfunction and disease, which include infections of the upper respiratory tract (e.g. otitis media, bacterial tracheitis, acute epiglottitis, thyroiditis), lower respiratory (e.g. emphysema, lung abscess), cardiac (e.g. infective endocarditis), gastrointestinal (e.g. secretory diarrhea, splenic abscess, stomach ulcer), CNS (e.g. cerebral abscess), eye (e.g. conjunctivitis, keratitis, endophthalmitis), kidney and urinary tract (e.g. epididymitis, intrarenal and perinephric abscess), skin (e.g. impetigo, folliculitis), bone and joint (e.g. septic arthritis, osteomyelitis).
Dwg.0/0

L13 ANSWER 24 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2000-611360 [58] WPIDS
DOC. NO. NON-CPI: N2000-452760
DOC. NO. CPI: C2000-182871
TITLE: **Apparatus** for use in shear assay system,
useful for **determining** the adhesion of
pathogens under physiological shear stress
conditions.
DERWENT CLASS: B04 D16 J04 S03
INVENTOR(S): BARGATZE, R F; CUTLER, J E; GLEE, P M; PYLE, B
PATENT ASSIGNEE(S): (LIGO-N) LIGOCYTE INC
COUNTRY COUNT: 90
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000052211	A1	20000908	(200058)*	EN	43
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM					
EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ					
LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU					
SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000037132	A	20000921	(200065)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
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Searcher : Shears 308-4994

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WO 2000052211 A1
AU 2000037132 A

WO 2000-US5280 20000301
AU 2000-37132 20000301

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2000037132 A	Based on	WO 200052211

PRIORITY APPLN. INFO: US 1999-122215P 19990301

AN 2000-611360 [58] WPIDS

AB WO 200052211 A UPAB: 20001114

NOVELTY - **Apparatus** comprising an elongated tube with an inner surface adapted to support a **substrate**, a means for producing a flow of fluid comprising test molecules in the tube, test cellular components or test cells, and a means for monitoring the interaction of the test molecules, test cellular components or test cells with the **substrate**, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an **apparatus** comprising:

(a) a conduit having an inner surface adapted to support a **substrate** comprising **substrate** cells, **substrate** extracellular matrix proteins, **substrate** molecules, **substrate** cellular components or combinations of these;

(b) a means for producing in the conduit a flow of fluid comprising test molecules, test cellular components or test cells; and

(c) a means for monitoring the interaction of the test molecules, test cellular components or test cells with the **substrate** cells, **substrate** extracellular matrix proteins, **substrate** molecules, **substrate** cellular components or combinations of these; and

(2) **determining** the adhesion of **pathogens** under physiological shear stress conditions using the above **apparatus**, comprising:

(a) introducing test molecules, test cellular components or test cells into the fluid flow; permitting the test molecules, test cellular components or test cells to interact with the **substrate** cells, **substrate** extracellular matrix proteins, **substrate** molecules, **substrate** cellular components or combinations of these; and

(b) monitoring the interactions.

USE - The **apparatus** can be used in a **method** for **determining** the adhesion of **pathogens** under physiological shear stress conditions. The pathogens can be viruses, bacteria, fungi, protozoa, or parasites (all claimed). The **apparatus** can be used to study leukocyte interactions with vascular endothelium or purified host ligands under simulated physiological shear.

ADVANTAGE - The **apparatus** system permits the analysis of complex adhesion behaviors that can occur in simulated physiological shear, unlike prior art **methods**. The **apparatus** also eliminates the potential perturbations to microbial **binding** interactions that occur during the washing steps of prior art assays.

DESCRIPTION OF DRAWING(S) - The diagram shows the basic

components of an in vitro shear system.
Dwg.1/6

L13 ANSWER 25 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 2000-137031 [12] WPIDS
 CROSS REFERENCE: 2000-126669 [09]; 2000-126670 [09]; 2000-126695
 [09]; 2000-126704 [09]; 2000-126834 [09];
 2000-137017 [09]; 2000-137019 [09]; 2000-137030
 [09]; 2000-160622 [09]; 2000-160623 [09];
 2000-365416 [31]; 2001-015868 [62]; 2001-024697
 [62]; 2001-040841 [62]; 2001-060891 [62];
 2001-112369 [08]; 2001-122672 [62]
 DOC. NO. NON-CPI: N2000-102434
 DOC. NO. CPI: C2000-042070
 TITLE: New disposable article comprising a biosensor for
 detection of specific target biological analytes in
 bodily waste.
 DERWENT CLASS: B04 D16 D22 F07 J04 P32 P34
 INVENTOR(S): FEDOSOV, Y; KHOMIAKOV, O; KRUCHININ, M; MUSCAT, A;
 ROE, D C; FESOSOV, Y
 PATENT ASSIGNEE(S): (PROC) PROCTER & GAMBLE CO
 COUNTRY COUNT: 87
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000000233	A1	20000106	(200012)*	EN	65
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW					
AU 9948421	A	20000117	(200026)		
EP 997125	A1	20000503	(200026)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
EP 1091773	A1	20010418	(200123)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU NL PT SE					
BR 9911750	A	20010403	(200128)		
TW 421587	A	20010211	(200146)		
CZ 2000004751	A3	20010815	(200157)		
TW 436281	A	20010528	(200172)		
KR 2001053327	A	20010625	(200173)		
KR 2001080919	A	20010825	(200215)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000000233	A1	WO 1999-US14665	19990629
AU 9948421	A	AU 1999-48421	19990629
EP 997125	A1	EP 1998-120476	19981029
EP 1091773	A1	EP 1999-932024	19990629
		WO 1999-US14665	19990629
BR 9911750	A	BR 1999-11750	19990629
		WO 1999-US14665	19990629
TW 421587	A	TW 1999-110980	19991201

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CZ 2000004751 A3	WO 1999-US14665	19990629
	CZ 2000-4751	19990629
TW 436281 A	TW 1999-120445	19991123
KR 2001053327 A	KR 2000-715070	20001229
KR 2001080919 A	KR 2001-705320	20010427

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9948421	A Based on	WO 200000233
EP 1091773	A1 Based on	WO 200000233
BR 9911750	A Based on	WO 200000233
CZ 2000004751 A3	Based on	WO 200000233

PRIORITY APPLN. INFO: US 1999-299399 19990426; US 1998-90993P
19980629; US 1998-106225 19980629; US
1998-107561 19980629; EP 1998-120476
19981029; US 1999-131073P 19990426

AN 2000-137031 [12] WPIDS
CR 2000-126669 [09]; 2000-126670 [09]; 2000-126695 [09]; 2000-126704
[09]; 2000-126834 [09]; 2000-137017 [09]; 2000-137019 [09];
2000-137030 [09]; 2000-160622 [09]; 2000-160623 [09]; 2000-365416
[31]; 2001-015868 [62]; 2001-024697 [62]; 2001-040841 [62];
2001-060891 [62]; 2001-112369 [08]; 2001-122672 [62]

AB WO 200000233 A UPAB: 20020306

NOVELTY - A disposable article to be fitted to a wearer, comprising
a biosensor including at least one bio-recognition element, is new.
The biosensor is adapted to detect a target biological analyte in
bodily waste or on the wearer's skin.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included
for a disposable article to be fitted to a wearer comprising a
sensor adapted to detect health markers or nutritional markers in
the wearer's bodily waste or on the wearer's skin.

USE - The disposable articles are useful for detecting
microorganisms and/or other biomolecules in bodily wastes and/or
sensors adapted to detect and/or measure components of feces useful
as health and/or nutritional indicators, especially in the form of
incontinence briefs, incontinence undergarments, absorbent inserts,
nappy holders and liners, disposable bed pads, colostomy bags for a
natural or artificial anus, feminine hygiene garments, tampons,
wipes, disposable towels, tissues, bibs, water absorbing articles,
oil absorbing articles, spill cleanup bags, desiccant bags,
disposable mops, bandages, disposable medical undergarments,
disposable plates and cups, disposable food preparation and cutting
surfaces, therapeutic wraps, supports and disposable heating pads
etc (especially sanitary napkin, a nappy, a training pant, an insert
and an adult incontinence device (claimed). Particularly
the article is useful for detecting calcium malabsorption which may
lead to long term bone mass deficiency.

ADVANTAGE - The biosensors function by providing a means of
specifically **binding** and therefore detecting a target
biologically active analyte, therefore the biosensor is highly
selective.

DESCRIPTION OF DRAWING(S) - The figure is a plan view of a
nappy in a flat out stage.

Nappy 20;
Topsheet 24;

Backsheet 26;
 Absorbent Core 28;
 Side panels 30;
 Leg Cuffs 32;
 Waist Feature 34; and
 Fastening feature 40.
 Dwg.1/8

L13 ANSWER 26 OF 47 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 2000:489601 BIOSIS

DOCUMENT NUMBER: PREV200000489722

TITLE: Characterization of the basis of lipoprotein (a) lysine-**binding** heterogeneity.

AUTHOR(S): Xia, Jiazhi; May, Lorraine F.; Koschinsky, Marlys L.
 (1)

CORPORATE SOURCE: (1) Department of Biochemistry, Queen's University,
 Kingston, ON, K7L 3N6 Canada

SOURCE: Journal of Lipid Research, (October, 2000) Vol. 41,
 No. 10, pp. 1578-1584. print.
 ISSN: 0022-2275.

DOCUMENT TYPE: Article

LANGUAGE: English

SUMMARY LANGUAGE: English

AB Although elevated plasma concentrations of lipoprotein (a) (Lp(a)) are considered to be a risk factor for atherosclerosis, the mechanisms by which Lp(a) mediates its **pathogenic** effects have not been conclusively **determined**. The apolipoprotein (a) (apo(a)) component of Lp(a) confers unique structural properties to this lipoprotein, including the ability to **bind** to lysine residues in biological **substrates**. It has been shown, however, that only a fraction of plasma Lp(a) (Lp(a)-Lys+) **binds** to lysine-Sepharose in vitro. The nature of the non-lysine-**binding** Lp(a) fraction in plasma (Lp(a)-Lys-) is currently unknown. In the present study, the Lp(a)-Lys+ fraction was determined in the plasma of six unrelated individuals; the Lp(a)-Lys+ fraction in these plasma samples ranged from appr37 to appr48%. Interestingly, purification of the Lp(a) by density gradient ultracentrifugation followed by gel filtration and ion-exchange chromatography resulted in progressive increases in the Lp(a)-Lys+ fraction. Addition of either purified low density lipoprotein (LDL) or fibronectin to the purified Lp(a) at a 1:1 molar ratio reduced the Lp(a)-Lys+ fraction (maximal decrease of 34 and 20%, respectively) whereas addition of both fibronectin and LDL to the purified Lp(a) resulted in a further decrease (45% maximally) in this fraction. Similar results were obtained by using a recombinant expression system for apo(a): addition of a 4-fold molar excess of either LDL or fibronectin to conditioned medium containing metabolically labeled recombinant apo(a) reduced the Lys+ fraction by 49 and 23%, respectively. Taken together, our data suggest that the lysine-**binding** heterogeneity of plasma Lp(a) is not primarily an intrinsic property of the lipoprotein, but rather results in large part from its ability to noncovalently associate with abundant plasma components such as LDL and fibronectin. These interactions appear to mask the lysine-**binding** site in apo(a) kringle IV type 10, which mediates the interaction of Lp(a) with lysine-Sepharose. The contribution of these interactions to the function of Lp(a) in vivo remains to be investigated.

L13 ANSWER 27 OF 47 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2000:229045 BIOSIS
DOCUMENT NUMBER: PREV200000229045
TITLE: Comparative analysis of the **binding** of
antibodies prepared against the insect Spodoptera
exigua and against the mycopathogen Nomuraea rileyi.
AUTHOR(S): Pendland, Jacquelyn C. (1); Boucias, Drion G. (1)
CORPORATE SOURCE: (1) Entomology and Nematology Department, University
of Florida, Gainesville, FL, 32611-0620 USA
SOURCE: Journal of Invertebrate Pathology, (Feb., 2000) Vol.
75, No. 2, pp. 107-116.
ISSN: 0022-2011.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English

AB Polyclonal antibodies were produced in mice against *Spodoptera exigua* (beet armyworm) larval hemolymph and hemocytes and against cell wall surfaces of hyphal bodies and hyphae of the entomopathogenic hyphomycete *Nomuraea rileyi*. In addition to exhibiting strong activity against their original antigenic **substrates**, all of the antibodies cross-react extensively with other **substrates**. The hemolymph antibody **binds** to hemocytes and vice versa, and both antibodies cross-react to the insect fat body basement membrane (extracellular matrix (ECM) and to *N. rileyi* and *Beauveria bassiana* (another entomopathogenic fungus) cell wall surfaces (ECM). Likewise, the anti-fungal antibodies cross-react with *S. exigua* hemolymph and hemocytes, especially the granules that may contain ECM components, and with fat body basement membrane. These cross-reactivities are specific as indicated by negative controls in the microscopy and Western blotting assays. Parallel labeling experiments using Con A suggest that the reactive epitopes contain mannose; however, none of the antibodies **bind** to mannose residues of nonentomopathogenic *Candida albicans* or *Saccharomyces cerevisiae* yeast cells. Thus, these cross-reactivities suggest that the host mimicry expressed by surface components of entomopathogenic fungi represents an important **pathogenic determinant**.

L13 ANSWER 28 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 2000-147216 [13] WPIDS
 CROSS REFERENCE: 2000-160573 [08]
 DOC. NO. CPI: C2000-046073
 TITLE: Assay for **determining** relative viability
 of mutant **pathogens** in presence of
 therapeutics, for designing treatments for human
 immune deficiency virus infections.
 DERWENT CLASS: B04 D16
 INVENTOR(S): ERICKSON, J W; GULNIK, S V
 PATENT ASSIGNEE(S): (USSH) US DEPT HEALTH & HUMAN SERVICES; (USSH) US
 DEPT HEALTH & SOCIAL SERVICES
 COUNTRY COUNT: 85
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG															

WO 9967417	A2	19991229	(200013)*	EN	118															
RW:	AT	BE	CH	CY	DE	DK	EA	ES	FI	FR	GB	GH	GM	GR	IE	IT	KE	LS	LU	MC
	MW	NL	OA	PT	SD	SE	SL	SZ	UG	ZW										

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W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI
GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI
SK SL TJ TM TR TT UA UG US UZ VN YU ZW
AU 9948280 A 20000110 (200025)
EP 1088098 A2 20010404 (200120) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9967417	A2	WO 1999-US14119	19990623
AU 9948280	A	AU 1999-48280	19990623
EP 1088098	A2	EP 1999-931861	19990623
		WO 1999-US14119	19990623

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9948280	A Based on	WO 9967417
EP 1088098	A2 Based on	WO 9967417

PRIORITY APPLN. INFO: US 1998-90393P 19980623

AN 2000-147216 [13] WPIDS

CR 2000-160573 [08]

AB WO 9967417 A UPAB: 20010410

NOVELTY - Assay for determining the biochemical fitness of a biochemical target (BT) in a mutant replicating entity, relative to its predecessor, comprises comparing the biochemical viability (BV) of BT from the mutant and predecessor, in presence of a compound that inhibits BT of the predecessor.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) administering a drug (A) that inhibits BT of a pathogen by:
(i) **determining** first BV for the **pathogen**
and a mutant that has evolved from it, in presence of first compound (C1) able to inhibit BT;

(ii) **determining** second BV for **pathogen** and
mutant in presence of at least one additional compound (C2);

(iii) determining, and comparing, biochemical fitness from (i) and (ii), and

(iv) administering which of C1 and C2 provides the lower value for biochemical fitness, so that the pathogen is less likely to develop resistance in presence of the selected compound;

(b) continuous fluorogenic assay for measuring anti-HIV (human immune deficiency virus) protease activity of a protease inhibitor, and

(c) preventing development of drug resistance in an HIV-infected mammal by administering a drug-resistance inhibitor of formula (II), or its salt, prodrug or ester:

A = bicyclic system;

X = bond, CHR10, CHR10CH2, CH2CHR10, oxygen, NR10 or sulfur;

R10 = hydrogen, alkyl, alkenyl or alkynyl;

Q and W = carbonyl, thiocarbonyl or sulfonyl;

R2 = hydrogen, 1-6C alkyl, or 2-6 C alkenyl or alkynyl;

m = 0-6;

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R3 = optionally substituted cycloalkyl, heterocycloalkyl, aryl or heteroaryl;

R4 = hydroxy, oxo, amino or methylamino;

R5 = as R2 or (CH₂)_qR14;

q = 0-5;

R14 = cycloalkyl, heterocycloalkyl, aryl or heteroaryl, optionally substituted by at least one halo, hydroxy, methoxy, amino, nitro, thiol or cyano;

R6 = optionally substituted cycloalkyl, heterocycloalkyl, aryl or heteroaryl; or R5, R6 and N-W together comprise a 12-18 membered ring containing at least one additional heteroatom such that a mutant virus, able to develop in the mammal, has lower fitness, relative to its predecessor, in presence of (II).

ACTIVITY - Antiviral; antibacterial; antimalarial; anticancer; anthelmintic.

MECHANISM OF ACTION - Enzyme or other protein inhibition.

USE - The **method** is used to identify compounds that are least likely to cause development of resistance when used to treat viral (specifically HIV), malarial or bacterial infections or cancer.

ADVANTAGE - The **method** allows selection of drugs that have the best chance of providing successful long-term therapy. The new fluorogenic assay, used to determine viability of HIV-1 in presence of protease inhibitors, is more sensitive than known **methods**, and is especially useful with multidrug-resistant mutants. The compounds (II) for preventing development of resistant mutants has a strong, broad-spectrum of inhibition against a panel of mutant HIV proteases.

Dwg.0/5

L13 ANSWER 29 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2000-116792 [10] WPIDS
DOC. NO. NON-CPI: N2000-088408
DOC. NO. CPI: C2000-035742
TITLE: Rapid production of chemiluminescence comprises e.g. contacting an acid with an acridan compound and contacting the product formed with base to give a second product with formation of light.
DERWENT CLASS: B02 B04 D13 D16 S03
INVENTOR(S): AKHAVAN-TAFTI, H; TAFTI-AKHAVAN, H
PATENT ASSIGNEE(S): (LUMI-N) LUMIGEN INC
COUNTRY COUNT: 23
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9966328	A1	19991223	(200010)*	EN	79
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: AU CA JP					
US 6017769	A	20000125	(200012)		
AU 9937408	A	20000105	(200024)		
EP 1005649	A1	20000607	(200032)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
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Searcher : Shears 308-4994

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WO 9966328 A1
US 6017769 A
AU 9937408 A
EP 1005649 A1

WO 1999-US6560 19990503
US 1998-99656 19980617
AU 1999-37408 19990503
EP 1999-919758 19990503
WO 1999-US6560 19990503

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9937408	A Based on	WO 9966328
EP 1005649	A1 Based on	WO 9966328

PRIORITY APPLN. INFO: US 1998-99656 19980617

AN 2000-116792 [10] WPIDS

AB WO 9966328 A UPAB: 20000228

NOVELTY - Producing chemiluminescence comprises (a) contacting an acid with an acridan compound to form a 1st reaction product (1); and (b) contacting (1) with sufficient quantity of base to provide a basic environment so that a 2nd reaction product (2) is formed and light is produced in the basic environment. At least one of (a) and (b) provides an oxidant for the reaction with (I) or (1).

DETAILED DESCRIPTION - Producing chemiluminescence comprises:

(a) contacting an acid with an acridan of formula (I) to form a 1st reaction product (1); and

(b) contacting (1) with sufficient quantity of base to provide a basic environment so that a 2nd reaction product (2) is formed and light is produced in the basic environment. At least one of (a) and (b) provides an oxidant for the reaction with (I) or (1).

Z1, Z2 = O, S or NR12;

R12 = alkyl, aryl, alkylsulfonyl or arylsulfonyl;

R1 = 1-50 non-H atoms chosen from C, N, O, S, P, Si or halo that are removable by acid; and

R2, R3 = organic groups containing 1-50 non-H atoms chosen from C, N, O, S, P, Si or halo; and

R4-R11 = H or substituents that do not interfere with generation of chemiluminescence.

An INDEPENDENT CLAIM is also included for a **method** of performing an assay of analyte in a sample comprising:

(i) generating chemiluminescence from (I);

(ii) detecting the chemiluminescence;

(iii) relating the chemiluminescence to the amount of the analyte in the sample.

USE - To produce chemiluminescence (claimed). To perform assay of analyte in samples such as drugs, hormones, pesticides, metabolites, DNA, RNA, oligonucleotides, antibodies, antibody fragments, antibody-DNA chimeras, antigens, haptens, proteins, carbohydrates, lectins and receptors (claimed). To detect analytes, especially within electrophoresis gels and in immunoassays, nucleic acid probes, nucleic acid hybridization probes, other ligand-**binder** assays, western blot, northern blot, southern blot, DNA sequence analysis, colony hybridization, gene expression analysis, high-throughput drug screening, and **detection** of infectious agents and **pathogens**, and for **detection** of analytes in food, environmental and industrial samples. Used for signaling, emergency lighting and novelty items.

Reagent comprising 3.3 multiply 10-4M acridan phosphate in 0.1M tris-(hydroxymethyl)aminomethane (Tris) buffer, pH 8.8 (10 micro l)

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was mixed with 3.6% urea peroxide (50 micro l) in 0.4M nitric acid and was incubated for 2 minutes. Chemiluminescence was triggered by injecting 0.25M sodium hydroxide solution (100 micro l). Light production occurred instantly upon mixing and was integrated for 5 seconds.

ADVANTAGE - Rapidly produces chemiluminescence from electron-rich alkenes by simple chemical process using inexpensive, readily available reagents. Detects very small amounts of compounds due to either low abundance in the sample or limited sample quantity. Detects quantity of compound precisely over wide range of concentrations.

Dwg.0/3

L13 ANSWER 30 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2000-147108 [13] WPIDS
DOC. NO. NON-CPI: N2000-108903
DOC. NO. CPI: C2000-045999
TITLE: Rapid and automatic system for detection of ligands using highly specific receptors.
DERWENT CLASS: B04 D16 J04 S03
INVENTOR(S): DOANE, K J; LAVRENTOVICH, O; NIEHAUS, G D; SCHMIDT, S P; SIGNS, S A; WOOLVERTON, C J
PATENT ASSIGNEE(S): (UYKE-N) UNIV KENT STATE
COUNTRY COUNT: 87
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9964862	A1	19991216	(200013)*	EN	41
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW					
AU 9939844	A	19991230	(200022)		
US 6171802	B1	20010109	(200104)		
BR 9910982	A	20010213	(200114)		
EP 1086374	A1	20010328	(200118)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9964862	A1	WO 1999-US10413	19990512
AU 9939844	A	AU 1999-39844	19990512
US 6171802	B1	US 1998-95196	19980610
BR 9910982	A	BR 1999-10982	19990512
		WO 1999-US10413	19990512
EP 1086374	A1	EP 1999-922970	19990512
		WO 1999-US10413	19990512

FILING DETAILS:

PATENT NO	KIND	FATENT NO
AU 9939844	A Based on	WO 9964862

Searcher : Shears 308-4994

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BR 9910982 A Based on WO 9964862
EP 1086374 A1 Based on WO 9964862

PRIORITY APPLN. INFO: US 1998-95196 19980610

AN 2000-147108 [13] WPIDS

AB WO 9964862 A UPAB: 20000313

NOVELTY - A system for the detection of ligands comprises at least one receptor and an amplification mechanism coupled to the receptor. The amplification mechanism generates a signal upon receptor-ligand **binding**.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a **device** for the detection and monitoring of the presence of ligands comprising multiple wells, each well containing a predetermined receptor coupled to an amplification mechanism. Upon **binding** of a specific ligand the predetermined receptor is activated and generates a signal, which is then amplified.

USE - The system/**device** is useful for the detection of ligand by a receptor, especially pathogens and/or toxins.

ADVANTAGE - The **method** uses highly specific receptors for the rapid and automatic detection of the ligand therefore providing a system for the early **detection** of **pathogenic** agents. The system is compact enough to be placed in a physicians office to enable immediate diagnoses.
Dwg.0/7

L13 ANSWER 31 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2000-053261 [04] WPIDS
DOC. NO. CPI: C2000-013910
TITLE: Detecting a target nucleic acid fragment in a
 clinical specimen, nucleic acid probes for Babesia
 species and Borrelia burgdorferi.
DERWENT CLASS: B04 C07 D16
INVENTOR(S): HARRIS, N S; SHAH, J S
PATENT ASSIGNEE(S): (IGEN-N) IGENEX INC
COUNTRY COUNT: 21
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9960009	A1	19991125	(200004)*	EN	49
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: AU CA JP					
AU 9940011	A	19991206	(200019)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9960009	A1	WO 1999-US10939	19990518
AU 9940011	A	AU 1999-40011	19990518

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9940011	A Based on	WO 9960009

PRIORITY APPLN. INFO: US 1998-88696P 19980521; US 1998-88541P
19980521

AN 2000-053261 [04] WPIDS

AB WO 9960009 A UPAB: 20000124

NOVELTY - A **method** for detecting a target nucleic acid fragment in a clinical specimen obtained from a patient comprises a two part **method** comprising isolating one or more nucleic acid fragments of the specimen via hybridization with a probe complex, and detection of the isolated nucleic acid fragment.

DETAILED DESCRIPTION - A **method** for detecting a target nucleic acid fragment in a clinical specimen obtained from a patient comprises:

(a) solubilizing a sample of the clinical specimen in a chaotropic salt solution;

(b) treating the solubilized sample by means to denature the nucleic acids contained in the sample;

(c) contacting the solubilized sample of (b) with at least one probe complex, the probe complex comprising a nucleic acid sequence which is complementary to a portion of the target nucleic acid fragment and further comprising a first member of a specific **binding pair**;

(d) incubating the solubilized sample with probe complex under conditions appropriate for hybridization of the probe complex with the target nucleic acid fragment;

(e) contacting the probe complex in the incubated sample of (d) with a solid **substrate** which is linked to the second member of the specific **binding pair** under conditions which promote **binding** of the specific **binding pair**, to isolate hybridized target nucleic acid fragment in probe-target-solid **substrate** ternary complex;

(f) separating the isolated probe-target-solid **substrate** complex from the solubilized sample;

(g) releasing the target nucleic acid and the probe complex into solution from the separated probe-target-solid **substrate** complex; amplifying the released target nucleic acid fragment by PCR or RT-PCR; and

(h) detecting the presence of the target nucleic acid fragment in the clinical specimen by comparison of the amplification products produced by (g) to amplification products produced in identically treated positive and negative control reactions.

INDEPENDENT CLAIMS are also included for the following:

(1) a **method** for direct amplification of a target nucleic acid fragment by PCR in a reaction buffer of 30 mM Tris-HCl (pH 8.4), 50 mM KCl, 1.5 mM MgCl₂, by otherwise standard procedures;

(2) a nucleic acid probe or primer for the detection of Babesia microti or B. WA-1, the probe consisting essentially of at least about 10 consecutive nucleotides of the nucleotide sequence of B5, B6, B7, B8-1 or their complements; and a **method** for specifically amplifying B. microti nucleic acid sequences by PCR or RT-PCR; and

(3) a **method** for detecting Babesia specific nucleic acids in a sample by hybridizing to one of the oligonucleotides in (2) or B8-2:

USE - The **methods** provide a means of detecting a target nucleic acid fragment in a clinical sample. In particular, the **methods** are useful for **detecting pathogens** such as Borrelia burgdorferi and species of

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Babesia, the causative agents of Lyme disease and babesiosis (which is common in many wild and domestic animals, less so in humans).

ADVANTAGE - Isolation of target nucleic acid fragments removes unwanted nucleic acids from the desired target nucleic acid fragment, and also significantly eliminates PCR inhibitors from the target nucleic acid fragment. This allows for the highly sensitive and accurate detection of the isolated target nucleic acid fragment. The **methods** can purify and concentrate several different DNA fragments from a sample in the same reaction, decreasing the total size of a sample required for the performance of multiple analyses.

Dwg.0/0

L13 ANSWER 32 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1999-179969 [15] WPIDS
CROSS REFERENCE: 1996-383666 [38]
DOC. NO. CPI: C1999-052344
TITLE: Concurrent processing of multiple biological chip assays - using biological chip plate bearing multiple probe arrays.
DERWENT CLASS: A96 B04 D16
INVENTOR(S): FODOR, S P; RAVA, R P; TRULSON, M
PATENT ASSIGNEE(S): (AFFY-N) AFFYMETRIX INC
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5874219	A	19990223	(199915)*		17

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5874219	A	Cont of	US 1995-476850 19950607
			US 1996-630051 19960409

FILING DETAILS:

PATENT NO	KIND	PATENT NO
US 5874219	A	US 5545531

PRIORITY APPLN. INFO: US 1995-476850 19950607; US 1996-630051 19960409

AN 1999-179969 [15] WPIDS
CR 1996-383666 [38]
AB US 5874219 A UPAB: 19990416

The following are claimed:

(1) a **method** for concurrently processing multiple biological chip assays, comprising:

(a) providing a biological chip plate comprising a contiguous **substrate** that comprises a contiguous surface and, attached to the contiguous surface, several probe arrays and, surrounding the probe arrays, material resistant to the flow of liquid, thereby forming several test wells, each test well defining a space for the introduction of a sample;

(b) manipulating the biological chip plate with a fluid

handling **device** that automatically performs steps to carry out reactions between target molecules in a test sample and probes in several of the test wells, and

(c) interrogating the probe arrays of the biological chip plate with a biological chip plate reader to detect reactions between target molecules and probes in several of the test wells to generate assay results;

(2) a system for concurrently processing multiple biological chip assays, comprising:

(a) a biological chip plate comprising a contiguous **substrate** that comprises a contiguous surface and, attached to the contiguous surface, several probe arrays and, surrounding the probe arrays, material resistant to the flow of liquid, thereby forming several test wells, each test well defining a space for the introduction of a sample;

(b) a fluid handling **device** that automatically performs steps to carry out reactions between target molecules in the samples and probes in several of the test wells; and

(c) a biological chip plate reader that interrogates the probe arrays to detect any reactions between target molecules and probes in several of the test wells to produce assay results;

(3) a biological chip plate comprising a contiguous **substrate** that comprises on its surface several probe arrays and, surrounding the probe arrays, material resistant to the flow of liquid thereby forming several test wells, each test well defining a space for the introduction of a sample;

(4) a **method** for making a biological chip plate, comprising providing a contiguous **substrate** and a body, the contiguous **substrate** comprising a contiguous surface and, attached to the contiguous surface, several probe arrays, and the body comprising several channels; and attaching the body to the surface of the contiguous **substrate**, whereby several of the channels each cover a probe array and the surface of the **substrate** closes one end of the channels, thereby forming test wells defining spaces for receiving samples, and

(5) a wafer comprising a contiguous **substrate** that comprises a contiguous surface and, attached to the contiguous surface, several probe arrays, where the probe arrays are arranged on the wafer surface in rows and columns, where the probe arrays in each row are the same and the probe arrays in each column are different.

USE - The assay is useful for:

(a) the **detection** or identification of a **pathogenic** organism, especially HIV;

(b) the detection or identification of a human nucleic acid, preferably a human gene variant, especially where the human gene variant indicates the existence of, or predisposition to cystic fibrosis, diabetes, muscular dystrophy or cancer, and

(c) the identification of a probe in a library that **binds** to a receptor.

Dwg.0/8

L13 ANSWER 33 OF 47 MEDLINE

ACCESSION NUMBER: 1999443902 MEDLINE

DOCUMENT NUMBER: 99443902 PubMed ID: 10512717

TITLE: **Crystal** structure of an Fab fragment in complex with a meningococcal serosubtype antigen and a protein G domain.

09/784232

AUTHOR: Derrick J P; Maiden M C; Feavers I M
CORPORATE SOURCE: Department of Biomolecular Sciences, UMIST,
Manchester, M60 1QD, UK.. Jeremy.Derrick@umist.ac.uk
SOURCE: JOURNAL OF MOLECULAR BIOLOGY, (1999 Oct 15) 293 (1)
81-91.
Journal code: J6V; 2985088R. ISSN: 0022-2836.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: PDB-1QKZ
ENTRY MONTH: 199911
ENTRY DATE: Entered STN: 20000111
Last Updated on STN: 20000111
Entered Medline: 19991122

AB Many pathogens present highly variable surface proteins to their host as a means of evading immune responses. The structure of a peptide antigen corresponding to the subtype Pl.7 variant of the porin PorA from the human **pathogen** *Neisseria meningitidis* was **determined** by solution of the X-ray **crystal** structure of the ternary complex of the peptide (ANGGASGQVK) in complex with a Fab fragment and a domain from streptococcal protein G to 1.95 A resolution. The peptide adopted a beta-hairpin structure with a type I beta-turn between residues Gly4P and Gly7P, the conformation of the peptide being further stabilised by a pair of hydrogen bonds from the side-chain of Asn2P to main-chain atoms in Val9P. The antigen binding site within the Fab formed a distinct crevice lined by a high proportion of apolar amino acids. Recognition was supplemented by hydrogen bonds from heavy chain residues Thr50H, Asp95H, Leu97H and Tyr100H to main-chain and side-chain atoms in the peptide. Complementarity-determining region (CDR) 3 of the heavy chain was responsible for approximately 50 % of the buried surface area formed by peptide-Fab binding, with the remainder made up from CDRs 1 and 3 of the light chain and CDRs 1 and 2 of the heavy chain. Knowledge of the structures of variable surface antigens such as PorA is an essential prerequisite to a molecular understanding of antigenic variation and its implications for vaccine design.
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L13 ANSWER 34 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1998-532018 [45] WPIDS
CROSS REFERENCE: 2001-190945 [14]
DOC. NO. CPI: C1998-159730
TITLE: Reagent for detecting bacteria and fungi, in e.g.
in food - comprises labelled murein **binding**
polypeptide and labelled antibiotic for detecting
bound polypeptide.
DERWENT CLASS: A96 B04 C07 D16
INVENTOR(S): LAINE, R A; LO, W C J
PATENT ASSIGNEE(S): (LOUU) UNIV LOUISIANA STATE & AGRIC & MECH COLL;
(LAIN-I) LAINE R A; (LOWC-I) LO W C J; (ANOM-N)
ANOMERI INC; (LOUU) UNIV LOUISIANA STATE
COUNTRY COUNT: 80
PATENT INFORMATION:

PATENT NO	KIND DATE	WEEK	LA	PG
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Searcher : Shears 308-4994

09/784232

WO 9842864 A1 19981001 (199845)* EN 110
RW: AT BE CH DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW
NL OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI
GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD
MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR
TT UA UG US UZ VN YU ZW
AU 9869401 A 19981020 (199909)
US 5935804 A 19990810 (199938)
EP 980439 A1 20000223 (200015) EN
R: CH DE DK FI FR GB IT LI NL SE
US 6090573 A 20000718 (200037)
US 6159719 A 20001212 (200067)
JP 2002503093 W 20020129 (200211) 138

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9842864	A1	WO 1998-US5580	19980320
AU 9869401	A	AU 1998-69401	19980320
US 5935804	A	US 1997-823293	19970321
EP 980439	A1	EP 1998-915148	19980320
		WO 1998-US5580	19980320
US 6090573	A Cont of	US 1997-823293	19970321
		US 1999-261664	19990303
US 6159719	A Div ex	US 1997-823293	19970321
		US 1999-261665	19990303
JP 2002503093 W		JP 1998-545847	19980320
		WO 1998-US5580	19980320

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9869401	A Based on	WO 9842864
EP 980439	A1 Based on	WO 9842864
US 6090573	A Cont of	US 5935804
US 6159719	A Div ex	US 5935804
JP 2002503093 W	Based on	WO 9842864

PRIORITY APPLN. INFO: US 1997-823293 19970321; US 1999-261664
19990303; US 1999-261665 19990303

AN 1998-532018 [45] WPIDS

CR 2001-190945 [14]

AB WO 9842864 A UPAB: 20020215

Diagnostic reagent (A) for detecting eubacteria and fungi comprises a murein **binding** polypeptide (I) conjugated to a reporter (II). (I) is an enzyme having a site that **binds** eubacterial murein (II) or fungal murein like compounds (III) with **binding** affinity 5×10^{-7} to 5×10^{-9} l/mole, and has **substrate** turnover rate for (III) or (IIIa) < 3 mole/minute.

Also new are (1) general **method** for detecting eubacteria and fungi from **binding** reaction with (I); (2) kits for this process comprising (A), solution for alkaline hydrolysis and reagent for N-acetylation of sugar residues; (3) diagnostic reagent (A') for detecting (I) bound to a murein in a

cell wall consisting of antibiotic (IV) and (II); (4) kits for determining antibiotic sensitivity of many eubacteria and fungi in < 12 hours.

USE - Used to **detect** and quantify (**pathogenic**) bacteria and fungi in biological fluids, water, foods, air etc., also to screen for antibiotic resistance.

ADVANTAGE - The reagents can detect small numbers of killed or treated pathogens from a wide range of genera. It does not react with normal mammalian tissue and can differentiate between bacteria and fungi. They have a long shelf life, provide rapid results (usually available within 3 hours), do not require an overnight culture, are suitable for automation and do not need specialised equipment or specifically trained personnel.
Dwg.0/12

L13 ANSWER 35 OF 47 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1998:428125 BIOSIS

DOCUMENT NUMBER: PREV199800428125

TITLE: Cloning and characterization of mitochondrial methionyl-tRNA synthetase from a pathogenic fungi *Candida albicans*.

AUTHOR(S): Lee, Sang Won; Jo, Yeong Joon; Kim, Sunghoon (1)

CORPORATE SOURCE: (1) Dep. Biol., Sung Kyun Kwan Univ., 300 Chunchundong, Jangangu, Suwon, Kyunggido 440-746 South Korea

SOURCE: Gene (Amsterdam), (July 30, 1998) Vol. 215, No. 2, pp. 311-318.
ISSN: 0378-1119.

DOCUMENT TYPE: Article

LANGUAGE: English

AB A genomic sequence encoding mitochondrial methionyl-tRNA synthetase (MetRS) was **determined** from a **pathogenic** fungi *Candida albicans*. The gene is distinct from that encoding the cytoplasmic MetRS. The encoded protein consists of 577 amino acids (aa) and contains the class I defining sequences in the N-terminal domain and the conserved anticodon-binding amino acid, Trp, in the C-terminal domain. This protein showed the highest similarity with the mitochondrial MetRSs of *Saccharomyces cerevisiae* and *Schizosaccharomyces pombe*. The mitochondrial MetRSs of these fungi were distinguished from their cytoplasmic forms. The protein lacks the zinc binding motif in the N-terminal domain and the C-terminal dimerization appendix that are present in MetRSs of several other species. *Escherichia coli* tRNAMet was a **substrate** for the encoded protein as determined by genetic complementation and in vitro aminoacylation reaction. This cross-species aminoacylation activity suggests the conservation of interaction mode between tRNAMet and MetRS.

L13 ANSWER 36 OF 47 MEDLINE

DUPLICATE 1

ACCESSION NUMBER: 1999030465 MEDLINE

DOCUMENT NUMBER: 99030465 PubMed ID: 9811546

TITLE: The **crystal** structure of the L1 metallo-beta-lactamase from *Stenotrophomonas maltophilia* at 1.7 Å resolution.

AUTHOR: Ullah J H; Walsh T R; Taylor I A; Emery D C; Verma C S; Gamblin S J; Spencer J

CORPORATE SOURCE: Division of Protein Structure, National Institute of Medical Research, The Ridgeway, Mill Hill, London,

09/784232

SOURCE: NW7 1AA, UK.
JOURNAL OF MOLECULAR BIOLOGY, (1998 Nov 20) 284 (1)
125-36.
Journal code: J6V; 2985088R. ISSN: 0022-2836.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: PDB-1SML; PDB-R1SMLSF
ENTRY MONTH: 199902
ENTRY DATE: Entered STN: 19990311
Last Updated on STN: 19990311
Entered Medline: 19990225

AB The structure of the L1 metallo-beta-lactamase from the opportunistic **pathogen** *Stenotrophomonas maltophilia* has been **determined** at 1.7 Å resolution by the multiwavelength anomalous dispersion (MAD) approach exploiting both the intrinsic binuclear zinc centre and incorporated selenomethionine residues. L1 is unique amongst all known beta-lactamases in that it exists as a tetramer. The protein exhibits the alphabeta/betaalpha fold found only in the metallo-beta-lactamases and displays several unique features not previously observed in these enzymes. These include a disulphide bridge and two substantially elongated loops connected to the active site of the enzyme. Two closely spaced zinc ions are bound at the active site with tetrahedral (Zn1) and trigonal bipyramidal (Zn2) co-ordination, respectively; these are bridged by a water molecule which we propose acts as the nucleophile in the hydrolytic reaction. Ligation of the second zinc ion involves both residues and geometry which have not been previously observed in the metallo-beta-lactamases. Simulated **binding** of the **substrates** ampicillin, ceftazidime and imipenem suggests that the **substrate** is able to **bind** to the enzyme in a variety of different conformations whose common features are direct interactions of the beta-lactam carbonyl oxygen and nitrogen with the zinc ions and of the beta-lactam carboxylate with Ser187. We describe a catalytic mechanism whose principal features are a nucleophilic attack of the bridging water on the beta-lactam carbonyl carbon, electrostatic stabilisation of a negatively charged tetrahedral transition state and protonation of the beta-lactam nitrogen by a second water molecule co-ordinated by Zn2. Further, we propose that direct metal:**substrate** interactions provide a substantial contribution to **substrate binding** and that this may explain the lack of specificity which is a feature of this class of enzyme.
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L13 ANSWER 37 OF 47 SCISEARCH COPYRIGHT 2002 ISI (R)

ACCESSION NUMBER: 97:792093 SCISEARCH

THE GENUINE ARTICLE: YC180

TITLE: **Crystal** structure of the
phosphatidylinositol-specific phospholipase C from
the human pathogen *Listeria monocytogenes*
AUTHOR: Moser J; Gerstel B; Meyer J E W; Chakraborty T;
Wehland J; Heinz D W (Reprint)
CORPORATE SOURCE: UNIV FREIBURG, INST ORGAN CHEM & BIOCHEM, ALBERTSTR
21, D-79104 FREIBURG, GERMANY (Reprint); UNIV
FREIBURG, INST ORGAN CHEM & BIOCHEM, D-79104
FREIBURG, GERMANY; GESELL BIOTECHNOL FORSCH MBH,

09/784232

COUNTRY OF AUTHOR: D-38124 BRAUNSCHWEIG, GERMANY; UNIV GIESSEN, INST
SOURCE: MED MIKROBIOL, D-35385 GIESSEN, GERMANY
GERMANY
JOURNAL OF MOLECULAR BIOLOGY, (17 OCT 1997) Vol.
273, No. 1, pp. 269-282.
Publisher: ACADEMIC PRESS LTD, 24-28 OVAL RD,
LONDON, ENGLAND NW1 7DX.
ISSN: 0022-2836.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 58

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The X-ray **crystal** structure of the phosphatidylinositol-specific phospholipase C (PI-PLC) from the human **pathogen** *Listeria monocytogenes* has been **determined** both in free form at 2.0 Angstrom resolution, and in complex with the competitive inhibitor myo-inositol at 2.6 Angstrom resolution. The structure was solved by a combination of molecular replacement using the structure of *Bacillus cereus* PI-PLC and single isomorphous replacement. The enzyme consists of a single (beta alpha)(8)-barrel domain with the active site located at the C-terminal side of the beta-barrel. Unlike other (beta alpha)(8)-barrels, the barrel in PI-PLC is open because it lacks hydrogen bonding interactions between beta-strands V and VI. myo-Inositol binds to the active site pocket by making specific hydrogen bonding interactions with a number of charged amino acid side-chains as well as a coplanar stacking interaction with a tyrosine residue. Despite a relatively low sequence identity of approximately 24%, the structure is highly homologous to that of *B.cereus* PI-PLC with an r.m.s. deviation for 228 common C-alpha positions of 1.46 Angstrom. Larger differences are found for loop regions that accommodate most of the numerous amino acid insertions and deletions. The active site pocket is also well conserved with only two amino acid replacements directly implicated in inositol binding. (C) 1997 Academic Press Limited.

L13 ANSWER 38 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1996-277797 [28] WPIDS
DOC. NO. CPI: C1996-088243
TITLE: Screening assay for inhibitors of nucleic acid polymerase(s) - using a polynucleotide template and a polycationic polynucleotide-selective agent immobilised on polymeric microbeads.
DERWENT CLASS: B04 C07 D16
INVENTOR(S): LAMARCO, K; STRULOVICI, B; WEI, P; WU, P
PATENT ASSIGNEE(S): (TULA-N) TULARIK INC
COUNTRY COUNT: 21
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9617084	A1	19960606	(199628)*	EN	25
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE					
W: AT AU CA JP					
AU 9643692	A	19960619	(199640)		
US 5635349	A	19970603	(199728)		9
EP 793730	A1	19970910	(199741)	EN	
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE					

Searcher : Shears 308-4994

09/784232

AU 688190 B 19980305 (199820)
 JP 10510429 W 19981013 (199851) 31
 CA 2205804 C 20001010 (200056) EN

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9617084	A1	WO 1995-US15300	19951122
AU 9643692	A	AU 1996-43692	19951122
US 5635349	A	US 1994-348797	19941202
EP 793730	A1	EP 1995-942477	19951122
		WO 1995-US15300	19951122
AU 688190	B	AU 1996-43692	19951122
JP 10510429	W	WO 1995-US15300	19951122
		JP 1996-518945	19951122
CA 2205804	C	CA 1995-2205804	19951122
		WO 1995-US15300	19951122

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9643692	A Based on	WO 9617084
EP 793730	A1 Based on	WO 9617084
AU 688190	B Previous Publ.	AU 9643692
	Based on	WO 9617084
JP 10510429	W Based on	WO 9617084
CA 2205804	C Based on	WO 9617084

PRIORITY APPLN. INFO: US 1994-348797 19941202

AN 1996-277797 [28] WPIDS

AB WO 9617084 A UPAB: 19960719

The following are claimed: (A) a **method** of identifying an inhibitor of a nucleic acid polymerase (NAP) activity comprising: (a) forming a mixt. of a nucleoside triphosphate (NTP), a polynucleotide template (PT), a pathogenic NAP and a candidate inhibitor of NAP activity, the NTP comprising a detectable label and the PT comprising a nucleotide sequence; (b) incubating the mixt. under conditions whereby, but for the presence of the candidate inhibitor, the polymerase transcribes the PT by catalysing the polymerisation of the NTP into a polynucleotide comprising a nucleotide sequence complementary to that of the PT; (c) contacting the mixt. with a polycationic polynucleotide-selective agent immobilised on polymeric microbeads; (d) incubating the mixt. in the presence of the solid **substrate** to selectively **bind** the polynucleotide to the polynucleotide selective agent; (e) sepg. the polymeric microbeads from the mixt.; (f) washing the microbeads free of the NTP, and (g) detecting the presence or absence of the label on the microbeads, whereby the absence of the label on the microbeads indicates that the candidate inhibitor is an inhibitor of a pathogenic NAP activity; (B) a membrane filtration **appts.** comprising a tube having a fluid passage comprising a reservoir portion, a first filter and a second filter, each of the first and second filters extending transversely across the passage, the first filter positioned between the reservoir portion of the passage and the second filter, the first filter being changeable from water-impermeable to

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water-permeable by contact with an organic solvent, and the second filter being water-permeable, hydrophilic, capable of permitting the passage of 90% by vol. of free water from the reservoir portion of the passage while retaining 90% by vol. of particles with a size of 20-200 μ dia. in the reservoir portion of the passage and having a max. pore size < 200 μ dia.

USE - The **method** provides for the high-throughput **screening** for specific inhibitors of **pathogenic** NAP activity. The inhibitors can be used as reagents in a wide variety of in vitro and cellular applications, in plant and field crops, pesticides, fungicides and in animal and human trials for diagnostic and therapeutic applications. They can also be used in studies on in vitro gene transcription systems.

Dwg.0/2

ABEQ US 5635349 A UPAB: 19970709

A **method** of identifying an inhibitor of a nucleic acid polymerase activity, the **method** comprises: forming a mixture of nucleoside triphosphates, a polynucleotide template, a pathogenic nucleic acid polymerase and a candidate inhibitor of nucleic acid polymerase activity, at least one of the nucleoside triphosphate comprising a detectable label and the polynucleotide template comprising a nucleotide sequence;

incubating the mixture under conditions whereby, but for the presence of the candidate inhibitor, the polymerase transcribes the polynucleotide template by catalysing the polymerization of the nucleoside triphosphates into a polynucleotide comprising a nucleotide sequence complementary to that of the polynucleotide template; (b) contacting the mixture with a polycationic, non-sequence-specific, polynucleotide-selective agent immobilised on polymeric microbeads; (c) incubating the mixture in the presence of the polymeric microbeads under conditions to selectively **bind** the polynucleotide to the polynucleotide-selective agent; (d) separating the polymeric microbeads from the mixture by membrane filtration; (e) washing the polymeric microbeads free of the nucleoside triphosphate; and (f) detecting the presence or absence of the label on the polymeric microbeads.

The absence of the label on the polymeric microbeads indicates that the candidate inhibitor of polymerase activity is an inhibitor of a pathogenic nucleic acid polymerase activity.

Dwg.0/2

L13 ANSWER 39 OF 47 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 96433078 MEDLINE
DOCUMENT NUMBER: 96433078 PubMed ID: 8836106
TITLE: **Crystal** structures of Toxoplasma gondii
HGXPRTase reveal the catalytic role of a long
flexible loop.
COMMENT: Comment in: Nat Struct Biol. 1996 Oct;3(10):813-4
AUTHOR: Schumacher M A; Carter D; Ross D S; Ullman B; Brennan
R G
CORPORATE SOURCE: Department of Biochemistry and Molecular Biology,
Oregon Health Sciences University, Portland
97201-3098, USA.
SOURCE: NATURE STRUCTURAL BIOLOGY, (1996 Oct) 3 (10) 881-7.
Journal code: B98; 9421566. ISSN: 1072-8368.
PUB. COUNTRY: United States
LANGUAGE: Journal; Article; (JOURNAL ARTICLE)
English

Searcher : Shears 308-4994

09/784232

FILE SEGMENT: Priority Journals
ENTRY MONTH: 199611
ENTRY DATE: Entered STN: 19961219
Last Updated on STN: 19961219
Entered Medline: 19961114

AB **Crystal** structures of **substrate**-free and XMP-soaked hypoxanthine-guanine-xanthine phosphoribosyltransferase (HGXPRTase) of the opportunistic **pathogen** *Toxoplasma gondii* have been **determined** to 2.4 and 2.9 Å resolution, respectively. HGXPRTase displays the conserved PRTase fold. In the structure of the enzyme bound to its product, a long flexible loop (residues 115-126) is located away from the active site. Comparison to the **substrate**-free structure reveals a striking relocation of the loop, which is poised to cover the catalytic pocket, thus providing a mechanism by which the HG(X)PRTases shield their oxocarbenium transition states from nucleophilic attack by the bulk solvent. The conserved Ser 117-Tyr 118 dipeptide within the loop is brought to the active site, completing the ensemble of catalytic residues.

L13 ANSWER 40 OF 47 MEDLINE DUPLICATE 3
ACCESSION NUMBER: 95171111 MEDLINE
DOCUMENT NUMBER: 95171111 PubMed ID: 7866745
TITLE: **Crystal** structure of scytalone dehydratase--a disease **determinant** of the rice **pathogen**, *Magnaporthe grisea*.
AUTHOR: Lundqvist T; Rice J; Hodge C N; Basarab G S; Pierce J; Lindqvist Y
CORPORATE SOURCE: Department of Molecular Biology, Swedish University of Agricultural Sciences Uppsala Biomedical Center.
SOURCE: STRUCTURE, (1994 Oct 15) 2 (10) 937-44.
JOURNAL code: B31; 9418985. ISSN: 0969-2126.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199503
ENTRY DATE: Entered STN: 19950407
Last Updated on STN: 19990129
Entered Medline: 19950329

AB **BACKGROUND:** Rice blast is caused by the pathogenic fungus, *Magnaporthe grisea*. Non-pathogenic mutants have been identified that lack enzymes in the biosynthetic pathway of dihydroxynaphthalene-derived melanin. These enzymes are therefore prime targets for fungicides designed to control rice blast disease. One of the enzymes identified by genetic analysis as a disease determinant is scytalone dehydratase. **RESULTS:** The three-dimensional structure of scytalone dehydratase in complex with a competitive inhibitor has been determined at 2.9 Å resolution. A novel fold, a cone-shaped alpha + beta barrel, is adopted by the monomer in this trimeric protein, burying the hydrophobic active site in its interior. The interactions of the inhibitor with the protein side chains have been identified. The similarity of the inhibitor to the **substrate** and the side chains involved in binding afford some insights into possible catalytic mechanisms. **CONCLUSIONS:** These results provide a first look into the structure and catalytic residues of a non-metal dehydratase, a large class of hitherto structurally uncharacterized enzymes. It is envisaged that a

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detailed structural description of scytalone dehydratase will assist in the design of new inhibitors for controlling rice blast disease.

L13 ANSWER 41 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1993-303652 [38] WPIDS
DOC. NO. NON-CPI: N1993-233444
DOC. NO. CPI: C1993-135305
TITLE: **Detection** of antibodies to
pathogenic virus - by reaction of
micro-capillary spot samples with enzyme-labelled
viral antigen, used for mass screening mink for
Aleutian disease.
DERWENT CLASS: B04 D16 J04 S03
INVENTOR(S): MIROSHNICHENKO, S M; PEREMYSLOV, V V; TARANIN, A V
PATENT ASSIGNEE(S): (TARA-I) TARANIN A V
COUNTRY COUNT: 3
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9318403	A2	19930916	(199338)*	RU	12
W: DK US					
DK 9301288	A	19940110	(199412)		
RU 2074393	C1	19970227	(199740)		7

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9318403	A2	WO 1993-RU33	19930210
DK 9301288	A	WO 1993-RU33	19930210
		DK 1993-1288	19931115
RU 2074393	C1	SU 1992-5032100	19920313

PRIORITY APPLN. INFO: SU 1992-5032100 19920313

AN 1993-303652 [38] WPIDS

AB WO 9318403 A UPAB: 19931123

Detection of antibodies to a **pathogenic** virus is effected by depositing samples on a protein-binding porous solid support in the form of microcapillary spots; drying the samples; directly reacting any antibodies in the samples with an enzyme-labelled viral antigen; and detecting any label by colour reaction with a **substrate**.

The support is pref. a sheet of nitrocellulose with ruled lines forming an array of squares for receiving the samples. Each square is numbered or lettered to identify the sample. Blood samples are diluted 2- to 20-fold with phosphate-buffers saline. The enzyme is a peroxidase, phosphatase or galactosidase and is linked to the antigen directly or via suitable ligands, esp. biotin and streptavidin.

USE/ADVANTAGE - The **method** is highly sensitive (e.g. with a detection limit of 0.01-0.07 mcg/ml), require only small samples, does not require complex equipment or highly qualified personnel, and can be used to test large nos. of biological fluid samples of any kind in a short time (e.g. 2.25 hr. for 100-1000 samples).
Dwg.0/0

L13 ANSWER 42 OF 47 MEDLINE DUPLICATE 4
 ACCESSION NUMBER: 93193345 MEDLINE
 DOCUMENT NUMBER: 93193345 PubMed ID: 8448924
 TITLE: Inhibition of mitochondrial respiration by
 furancarboxylic acid accumulated in uremic serum in
 its albumin-bound and non-dialyzable form.
 AUTHOR: Niwa T; Aiuchi T; Nakaya K; Emoto Y; Miyazaki T;
 Maeda K
 CORPORATE SOURCE: Department of Internal Medicine, Nagoya University
 Branch Hospital, Japan.
 SOURCE: CLINICAL NEPHROLOGY, (1993 Feb) 39 (2) 92-6.
 Journal code: DEY; 0364441. ISSN: 0301-0430.
 PUB. COUNTRY: GERMANY: Germany, Federal Republic of
 Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 199304
 ENTRY DATE: Entered STN: 19930423
 Last Updated on STN: 19930423
 Entered Medline: 19930409

AB 3-carboxy-4-methyl-5-propyl-2-furanpropionic acid (CMPF) accumulates
 markedly in uremic serum in its albumin-bound form. To determine if
 CMPF can be removed by newly developed dialyzers with high-flux
 membranes which are permeable to low-molecular-weight proteins, such
 as beta 2-microglobulin (beta 2-MG), serum levels of CMPF were
 determined before and after hemodialysis using these high-flux
 membrane dialyzers. In addition, to **determine** the
pathogenic role of CMPF in uremic patients, its cellular
 toxicity due to its effect on mitochondrial respiration was studied.
 The reduction rates of CMPF by hemodialysis using the dialyzers
 ranged from -17% to -24%, demonstrating the nondialyzability of CMPF
 due to its strong albumin-binding, while those of beta
 2-MG ranged from 11% to 43%. CMPF inhibited ADP-stimulated oxidation
 of NADH-linked **substrates** in isolated mitochondria
 dose-dependently regardless of the presence of serum albumin. This
 inhibition was observed even at a concentration of 0.2 mM, which is
 comparable to the serum levels of CMPF in the hemodialysis patients.
 In conclusion CMPF which cannot be removed even by high-flux
 membrane dialyzers, is a strong inhibitor of mitochondrial
 respiration, and novel purification **methods** to remove CMPF
 from the blood of uremic patients should be developed.

L13 ANSWER 43 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 1992-080211 [10] WPIDS
 DOC. NO. NON-CPI: N1992-060054
 DOC. NO. CPI: C1992-037175
 TITLE: New adhesion receptors for pathogenic and
 opportunistic microorganisms - useful as vaccines
 and for diagnosis, treatment and prevention of
 pathogenic and opportunistic infections e.g.
 salmonella.
 DERWENT CLASS: B04 D16 S03
 INVENTOR(S): KRIVAN, H C; SAMUEL, J E
 PATENT ASSIGNEE(S): (ANTE-N) ANTEX BIOLOGICS INC; (BIOC-N) BIOCARB INC;
 (MICR-N) MICROCARB INC
 COUNTRY COUNT: 17
 PATENT INFORMATION:

09/784232

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9202817	A	19920220	(199210)*		67
RW: AT BE CH DE DK ES FR GB GR IT LU NL SE					
W: CA JP					
EP 553113	A1	19930804	(199331)	EN	67
R: AT CH DE DK ES FR GB IT LI NL SE					
JP 06501383	W	19940217	(199412)		19
EP 553113	A4	19940330	(199530)		
US 5696000	A	19971209	(199804)		20
EP 553113	B1	19981125	(199851)	EN	
R: AT CH DE DK ES FR GB IT LI NL SE					
DE 69130536	E	19990107	(199907)		
ES 2127198	T3	19990416	(199922)		
CA 2095642	C	19991214	(200018)	EN	

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 553113	A1	EP 1991-916508	19910729
		WO 1991-US5179	19910729
JP 06501383	W	JP 1991-515061	19910729
		WO 1991-US5179	19910729
EP 553113	A4	EP 1991-916508	
US 5696000	A Div ex	US 1990-562002	19900802
	Cont of	US 1993-78660	19930621
		US 1994-275702	19940718
EP 553113	B1	EP 1991-916508	19910729
		WO 1991-US5179	19910729
DE 69130536	E	DE 1991-630536	19910729
		EP 1991-916508	19910729
		WO 1991-US5179	19910729
ES 2127198	T3	EP 1991-916508	19910729
CA 2095642	C	CA 1991-2095642	19910729
		WO 1991-US5179	19910729

FILING DETAILS:

PATENT NO	KIND	PATENT NO
EP 553113	A1 Based on	WO 9202817
JP 06501383	W Based on	WO 9202817
EP 553113	B1 Based on	WO 9202817
DE 69130536	E Based on	EP 553113
	Based on	WO 9202817
ES 2127198	T3 Based on	EP 553113
CA 2095642	C Based on	WO 9202817

PRIORITY APPLN. INFO: US 1990-562002 19900802; US 1993-78660
19930621; US 1994-275702 19940718

AN 1992-080211 [10] WPIDS

AB WO 9202817 A UPAB: 19970716

A receptor (I) comprises a substantially pure compound e.g.
GalB1-4GlcNAcB1-3GalB1-4GlcB1-1-x (R), GalB1-3GlcNAcB1-3GalB1-4GlcB1-
1-x(R), GlcNAcB1-3GalB1-4GlcB1-1-x(R), GalB1-4GlcNAcB1-3GalB1-4Glc,
GalB1-3GlcNAcB1-3GalB1-4Glc, GlcNAB1-3GalB1-4Glc, GalB1-4GlcNAc-3Gal

and GalB1-3-GlcNAcB1-3Gal, where x is sphingosine, hydroxylated sphingosine or saturated sphingosine, and R is H or N-acyl fatty acid derivative of x such that x(R) is a ceramide.

Also new are (1) a compsn. comprising (I) attached to an insoluble or soluble **substrate**; (2) a **method** for detecting microorganisms in a sample comprising:- (a) contacting the sample with (I) for a period of time and under conditions sufficient for the receptors to **bind** the microorganisms; and (b) assaying for complexes formed; (3) a diagnostic kit for the **detection of pathogenic** or opportunistic microorganisms comprising the compsn. of (1) and means for detecting or measuring the formation of complexes.

USE/ADVANTAGE - (I) can be used in various forms to detect microorganisms, remove them from liquids and treat infections caused by them. It inhibits their adhesion to mammalian cells if suspended in a liquid which is physiologically compatible with the cells. The adhesion protein has diagnostic and therapeutic applications and is particularly useful as a vaccine. @ (67pp Dwg.No.0/4

ABEQ EP 553113 A UPAB: 19931118

A receptor (I) comprises a substantially pure compound e.g. GalB1-4GlcNAcB1-3GalB1-4GlcB1-1-x (R), GalB1-3GlcNAcB1-3GalB1-4GlcB1-1-x(R), GlcNAcB1-3GalB1-4GlcB 1-1-x(R), GalB1-4GlcNAcB1-3GalB1-4Glc, GalB1-3GlcNAcB1-3GalB1-4Glc, GlcNAB1-3GalB1-4Glc, GalB1-4GlcNAc-3Gal and GalB1-3-GlcNAcB1-3Gal, where x is sphingosine, hydroxylated sphingosine or saturated sphingosine, and R is H or N-acyl fatty acid derivative of x such that x(R) is a ceramide.

Also new are (1) a compsn. comprising (I) attached to an insoluble or soluble **substrate**; (2) a **method** for detecting microorganisms in a sample comprising:- (a) contacting the sample with (I) for a period of time and under conditions sufficient for the receptors to **bind** the microorganisms; and (b) assaying for complexes formed; (3) a diagnostic kit for the **detection of pathogenic** or opportunistic microorganisms comprising the compsn. of (1) and means for detecting or measuring the formation of complexes.

USE/ADVANTAGE - (I) can be used in various forms to detect microorganisms, remove them from liquids and treat infections caused by them. It inhibits their adhesion to mammalian cells if suspended in a liquid which is physiologically compatible with the cells. The adhesion protein has diagnostic and therapeutic applications and is particularly useful as a vaccine.

ABEQ US 5696000 A UPAB: 19980126

A receptor (I) comprises a substantially pure compound e.g. GalB1-4GlcNAcB1-3GalB1-4GlcB1-1-x (R), GalB1-3GlcNAcB1-3GalB1-4GlcB1-1-x(R), GlcNAcB1-3GalB1-4GlcB 1-1-x(R), GalB1-4GlcNAcB1-3GalB1-4Glc, GalB1-3GlcNAcB1-3GalB1-4Glc, GlcNAB1-3GalB1-4Glc, GalB1-4GlcNAc-3Gal and GalB1-3-GlcNAcB1-3Gal, where x is sphingosine, hydroxylated sphingosine or saturated sphingosine, and R is H or N-acyl fatty acid derivative of x such that x(R) is a ceramide.

Also new are (1) a compsn. comprising (I) attached to an insoluble or soluble **substrate**; (2) a **method** for detecting microorganisms in a sample comprising:- (a) contacting the sample with (I) for a period of time and under conditions sufficient for the receptors to **bind** the microorganisms; and (b) assaying for complexes formed; (3) a diagnostic kit for the **detection of pathogenic** or opportunistic microorganisms comprising the compsn. of (1) and means for detecting or measuring the formation of complexes.

USE/ADVANTAGE - (I) can be used in various forms to detect microorganisms, remove them from liquids and treat infections caused by them. It inhibits their adhesion to mammalian cells if suspended in a liquid which is physiologically compatible with the cells. The adhesion protein has diagnostic and therapeutic applications and is particularly useful as a vaccine.
Dwg.0/4b

L13 ANSWER 44 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 1992-049529 [07] WPIDS
 CROSS REFERENCE: 1992-390495 [48]; 1992-390496 [48]
 DOC. NO. NON-CPI: N1992-037843
 DOC. NO. CPI: C1992-022044
 TITLE: **Appts.** for immunoassay of bacterial lipo-polysaccharide - has **substrate** coated with polymyxin in place of capture antibody, esp. for detecting Salmonella in food.
 DERWENT CLASS: A88 A96 B04 B07 C07 D13 D16 J01 J04 P34 S03
 INVENTOR(S): BLAIS, B W; YAMAZAKI, H
 PATENT ASSIGNEE(S): (BLAI-I) BLAIS B W; (YAMA-I) YAMAZAKI H
 COUNTRY COUNT: 3
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
CA 2017093	A	19911118	(199207)*		
JP 04270965	A	19920928	(199245)		23
US 5510242	A	19960423	(199622)		17

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
CA 2017093	A	CA 1990-2017093	19900518
JP 04270965	A	JP 1991-113467	19910517
US 5510242	A	US 1991-697683	19910509
		US 1993-87013	19930707

PRIORITY APPLN. INFO: CA 1990-2017093 19900518; CA 1991-2037726 19910307; CA 1991-2037727 19910307

AN 1992-049529 [07] WPIDS
 CR 1992-390495 [48]; 1992-390496 [48]
 AB CA 2017093 A UPAB: 19931006

The **appts.** comprises a **substrate** to which polymyxin (I) is adhered and to which the sample is applied. Also new is detection of bacterial LKPS using this **appts.**

The assay can pref. be on enzyme, radio or fluorescent immunoassay and the **substrate** is plastic (specifically polystyrene, polycarbonate, polymethacrylate or PVC); woven or non-woven cloth (pref. rayon-polyester) or paper. (I) is polymyxin B, B1, B2, D1, D2 or E.

USE/ADVANTAGE - (I) **binds** with LPS of all Gram-negative bacteria, and is much cheaper than captive antibodies used previously. The new **appts.** does not need to be refrigerated; provides a rapid test (within 24 hrs.) which can be made semi-quantitative; and can detect as few as 1-10 Salmonella cells per g of food. Unlike antibodies, (I) has consistent

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batch-to-batch quality. The **method** is used to
detect bacterial **pathogens** esp. in food.
1/7

ABEQ US 5510242 A UPAB: 19960604

A process for the detection of lipopolysaccharide present on the cell walls of a target Gram negative bacteria which process comprises the steps of:

a) heating a sample of bacteria in a detergent solution to extract lipopolysaccharide antigens from said cell walls of said Gram negative bacteria;

b) contacting said solution with a **device** consisting essentially of in combination, a macroporous, hydrophobic material as a **substrate**, said **substrate** comprising a cloth composed of hydrophobic synthetic polymeric fibers, selected from the group consisting of polyester, polypropylene, and nylon and blends thereof with rayon which are either woven or non-woven into a physically-structurally-stable cloth of more than about 200 mum thickness, such that the pores exceed about 20 mum in diameter, said **substrate** being adapted to receive a sample to be tested, and, bound by simple adsorption to said **substrate**, a polymyxin;

c) washing said **device**; and

d) detecting the presence of said predetermined lipopolysaccharide by contacting an antibody indicator conjugate specifically **binding** said lipopolysaccharide to said **device**.
Dwg.0/7

L13 ANSWER 45 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1990-209784 [27] WPIDS
DOC. NO. NON-CPI: N1990-163010
DOC. NO. CPI: C1990-090657
TITLE: Amplified DNA capture and detection - by
incorporating ligand and contacting DNA with
substrate having immobilised
binding reagent for ligand.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): FOOTE, S J; KEMP, D J; PETERSON, M G; SAMARAS, N;
SMITH, D
PATENT ASSIGNEE(S): (AMRA-N) AMRAD CORP LTD; (AMRA) AMERICAN STANDARD
INC
COUNTRY COUNT: 18
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9006374	A	19900614	(199027)*		
RW: AT BE CH DE ES FR GB IT LU NL SE					
W: AU DK JP NO US					
CA 2004990	A	19900609	(199034)		
AU 8946637	A	19900626	(199038)		
EP 447464	A	19910925	(199139)		
R: AT BE CH DE ES FR GB IT LI LU NL SE					
DK 9101080	A	19910807	(199144)		
NO 9102169	A	19910806	(199145)		
JP 04502251	W	19920423	(199223)		25
AU 633036	B	19930121	(199310)		
EP 447464	A4	19920603	(199522)		

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US 5536648 A 19960716 (199634) 23
 EP 447464 B1 19980805 (199835) EN
 R: AT BE CH DE ES FR GB IT LI LU NL SE
 DE 68928769 E 19980910 (199842)
 ES 2121750 T3 19981216 (199906)
 JP 3068848 B2 20000724 (200040) 20

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 447464	A	EP 1990-900722	19891208
JP 04502251	W	WO 1989-AU526	19891208
		JP 1990-500923	19891208
AU 633036	B	AU 1989-46637	19891208
EP 447464	A4	EP 1990-900722	
US 5536648	A Cont of Cont of	WO 1989-AU526	19891208
		US 1991-689287	19910801
		US 1994-229056	19940418
EP 447464	B1	WO 1989-AU526	19891208
		EP 1990-900722	19891208
DE 68928769	E	DE 1989-628769	19891208
		WO 1989-AU526	19891208
		EP 1990-900722	19891208
ES 2121750	T3	EP 1990-900722	19891208
JP 3068848	B2	WO 1989-AU526	19891208
		JP 1990-500923	19891208

FILING DETAILS:

PATENT NO	KIND	PATENT NO
JP 04502251	W Based on	WO 9006374
AU 633036	B Previous Publ. Based on	AU 8946637 WO 9006374
EP 447464	B1 Based on	WO 9006374
DE 68928769	E Based on Based on	EP 447464 WO 9006374
ES 2121750	T3 Based on	EP 447464
JP 3068848	B2 Previous Publ. Based on	JP 04502251 WO 9006374

PRIORITY APPLN. INFO: AU 1988-1889 19881209; AU 1989-5080
 19890704

AN 1990-209784 [27] WPIDS

AB WO 9006374 A UPAB: 19950524

Capturing amplified target DNA on a solid **substrate** is claimed comprising incorporating a first ligand into the DNA by a polymerase chain reaction (PCR) using a set of primers where one of the primers bears the ligand and contacting the treated DNA with a solid **substrate** having an immobilised **binding** reagent for the ligand.

The **binding** reagent may be a DNA **binding** protein, e.g. glutathione-5-transferase (GST)-GCN4 or Tyr R. Detection of the captured DNA may be with a second ligand, e.g. biotin and a detection reagent, e.g. avidin/peroxidase.

USE/ADVANTAGE - The single or multi-step amplified DNA assay provides a very sensitive, specific and rapid **method** for

detecting specific DNA segments. It can be used for **screening** for genetic disorders or **pathogens**, e.g. HIV. @ (64pp Dwg.No.1/15)@ 1/15@

ABEQ JP 04502251 W UPAB: 19930928

Capturing amplified target DNA on a solid **substrate** is claimed comJP4502251A - Wprising incorporating a first ligand into the DNA by a polymerase chain reaction (PCR) using a set of primers where one of the primers bears the ligand and contacting the DNA with a solid **substrate** having an immobilised **binding** reagent for the ligand.

The **binding** reagent may be a DNA **binding** protein, e.g. glutathione-S-transferase (GST)-GCN4 or Tyr R. Detection of the captured DNA may be with a second ligand, e.g. biotin and a detection reagent, e.g. avidin/peroxidase.

USE/ADVANTAGE - The single or multi-step amplified DNA assay provides a very sensitive, specific and rapid **method** for detecting specific DNA segments. It can be used for **screening** for genetic disorders or **pathogens**, e.g. HIV.

ABEQ US 5536648 A UPAB: 19960829

A **method** for capturing target DNA on a solid **substrate** comprising: a) amplifying said target DNA by a polymerase chain reaction with a pair of oligonucleotide primers which are complementary to said target DNA wherein one of the primers comprises a nucleotide sequence which is a ligand for a double stranded DNA-**binding** protein when said nucleotide sequence is incorporated into said amplified target DNA; and b) contacting said amplified target DNA with a double stranded DNA-**binding** protein immobilized on a solid **substrate**.
Dwg.0/15

L13 ANSWER 46 OF 47 MEDLINE

ACCESSION NUMBER: 85090449 MEDLINE

DOCUMENT NUMBER: 85090449 PubMed ID: 2578226

TITLE: Fluorogenic **substrate** detection of viable intracellular and extracellular **pathogenic** protozoa.

AUTHOR: Jackson P R; Pappas M G; Hansen B D

SOURCE: SCIENCE, (1985 Jan 25) 227 (4685) 435-8.
Journal code: UJ7; 0404511. ISSN: 0036-8075.

PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 198502

ENTRY DATE: Entered STN: 19900320
Last Updated on STN: 19900320
Entered Medline: 19850221

AB Viable Leishmania promastigotes and amastigotes were detected by epifluorescence microscopy with fluorescein diacetate being used to mark living parasites and the nucleic acid-**binding** compound ethidium bromide to stain dead cells. This procedure is superior to other assays because it is faster and detects viable intracellular as well as extracellular Leishmania. Furthermore, destruction of intracellular **pathogens** by macrophages is more accurately **determined** with fluorescein diacetate than with other stains. The procedure may have applications in programs

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to develop drugs and vaccines against protozoa responsible for human and animal disease.

L13 ANSWER 47 OF 47 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1984-258210 [42] WPIDS
DOC. NO. NON-CPI: N1984-192939
DOC. NO. CPI: C1984-109158
TITLE: Enzymatic channelling **binding** immuno
assay - for measurement of analytes, such as
poly-nucleotide(s).
DERWENT CLASS: A89 B04 D16 J04 S03
INVENTOR(S): DINELLO, R; GIBBONS, I; ULLMAN, E F
PATENT ASSIGNEE(S): (SYNT) SYVA CO
COUNTRY COUNT: 16
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 122059	A	19841017	(198442)*	EN	36
R: AT BE CH DE FR GB IT LI LU NL SE					
AU 8425561	A	19840920	(198445)		
JP 59178362	A	19841009	(198446)		
US 4687735	A	19870818	(198735)		
CA 1230289	A	19871215	(198802)		
EP 122059	B	19890222	(198908)	EN	
R: AT BE CH DE FR GB IT LI LU NL SE					
DE 3476834	G	19890330	(198914)		
JP 06043997	B2	19940608	(199421)		11

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 122059	A	EP 1984-301676	19840313
JP 59178362	A	JP 1984-46614	19840313
US 4687735	A	US 1983-474906	19830314
JP 06043997	B2	JP 1984-46614	19840313

FILING DETAILS:

PATENT NO	KIND	PATENT NO
JP 06043997	B2 Based on	JP 59178362

PRIORITY APPLN. INFO: US 1983-474906 19830314

AN 1984-258210 [42] WPIDS

AB EP 122059 A UPAB: 19930925

A channelling assay **method** for detecting the presence of an analyte, which is a member of a specific **binding** pair comprising first and second **binding** members (FBM and SBM resp.), is claimed. The **method** employs two systems: (A) a channelling signal producing system comprising (i) an enzyme (E1)-SBM conjugate; (ii) a **substrate** for E1; (iii) a final reactant which is either another enzyme (E2) related to E1 by the **substrate** of one enzyme being the prod. of the other, or a cpd. which reacts with the prod. of E1 reaction; and (B) a linking system causing polymerisation of the final reactant and incorporation of E1 within the polymer as a function of the

binding of EI-SBM conjugate to FBM so as to form a polymeric channelling aggregate.

The process is performed in an aq. assay medium by combining the sample, EI-SBM conjugate (and FBM when the analyte is a SBM) and the linking system to form the aggregate, through which is then channelled the remaining components of system A, to form a final prod., which causes a change in a detectable signal. The signal is then compared with that observed in a medium contg. a known amount of analyte.

Pref. the FBM is a ligand and the SBM is a receptor, pref. an antibody. The enzymes are oxidoreductases.

USE - The assay may be used to detect analytes in physiological fluids, cellular materials, etc. or it may be employed in monitoring contaminants in water and chemical processing etc. The analyte is pref. a ligand such as a drug, macromolecule, protein or polynucleotide. Suitable ligands are described in US4233402.

0/0

ABEQ EP 122059 B UPAB: 19930925

A channelling assay **method** for detecting the presence of an analyte in a sample suspected of containing said analyte, when said analyte is a member of a specific **binding** pair consisting of first and second **binding** members ("FBM" and "SBM", respectively), characterised by said **method** employing a channelling signal producing system comprising an enzyme, enzyme(+), conjugated to an SBM to provide enzyme (+)-SBM conjugate, an enzyme **substrate** and a Final Reactant, wherein said Final Reactant is (1) another enzyme, enzyme(x), where the two enzymes are related by the **substrate** of one enzyme being the product of the other enzyme, or (2) a compound which reacts with the product of enzyme(+), wherein the reactions of said enzyme(+) in conjunction with enzyme(x) or said compound results in a change in an observable signal in relation to the amount of analyte in said sample; and linking system providing for the polymerisation of said Final Reactant and the incorporation of enzyme(+) within the polymer as a function of the **binding** of enzyme(+)-SBM conjugate to FBM so as to form a polymeric channelling aggregate; said **method** comprising: combining in an aqueous assay medium; (a) said sample; (b) said enzyme(+)-SBM conjugate, and FBM when said analyte is a SBM, so as to form a complex between said FBM and said enzyme(+)-SBM conjugate in relation to the amount of analyte present; (c) any members of said linking system, whereby is formed a polymeric channelling aggregate of said Final Reactant and a complex of enzyme(+)-SBM conjugate with FBM; and (d) remaining members of a signal producing system, whereby a Final Product is produced as a result of channelling of said members of said signal producing system in said polymeric channelling aggregate, which results in a change in detectable signal; and comparing said detectable signal to the detectable signal observed in an assay medium having a known amount of analyte.

ABEQ US 4687735 A UPAB: 19930925

Detection of an analyte which is a member of a specific **binding** pair FBM-SBM uses a channeling signal producing system comprising an enzyme, designated enzyme+, conjugated to an SBM to provide enzyme+ -SBM conjugate, an enzyme **substrate** and a Final Reactant. The Final Reactant is (1) another enzyme designated enzyme, such that the prod. of one enzyme is the **substrate** of the other or (2) a cpd. reactive with the prod. of enzyme+, in either case reaction producing an observable signal

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related to the amt. of analyte in the test sample. A linking system provides for polymerisation of the Final Reactant and incorporation of enzyme+ within the polymer chain as a function of the **binding** of enzyme+ -SBM conjugate to FBM so as to form a polymeric channeling aggregate.

USE/ADVANTAGE - In **determn.** of **pathogens**, etc. with increased sensitivity.

██████████ PLUS' ENTERED AT 15:42:13 ON 06 MAR 2002
L14 134 S L1 AND KIT
L15 10 S L14 AND SUBSTRATE
L16 8 S L15 NOT L9

claim 46

L16 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:904467 CAPLUS

DOCUMENT NUMBER: 136:32654

TITLE: Primer extension using a mixture of labeled and unlabeled nucleotides for detection of mutation in genes

INVENTOR(S): Xu, Hua

PATENT ASSIGNEE(S): Dna Sciences, Inc., USA

SOURCE: PCT Int. Appl., 63 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001094546	A2	20011213	WO 2001-US17928	20010531
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			

PRIORITY APPLN. INFO.: US 2000-585768 A2 20000602

AB The present invention provides methods, compns. and kits for detg. the identity of a nucleotide at a variant site in a nucleic acid of interest, including point mutations and single nucleotide polymorphism. The methods utilize one or more nucleotides, each nucleotide being a mixt. of labeled and unlabeled forms, to generate labeled extension products that are characteristic of the nucleotide at the variant site in the nucleic acid of interest. In addn. to their utility in detecting and analyzing point mutations and SNPs, the methods and kits of the invention have utility in a variety of other applications in which specific nucleic acid sequence information is of value, including **detection of pathogens**, paternity disputes, prenatal testing and forensic anal.

L16 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2002 ACS

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ACCESSION NUMBER: 2001:886567 CAPLUS
DOCUMENT NUMBER: 136:32642
TITLE: Determination of DNA sequence variations through
primer extension and uses in genotyping
INVENTOR(S): Xu, Hua; Glazer, Alexander N.
PATENT ASSIGNEE(S): Dna Sciences, Inc., USA
SOURCE: PCT Int. Appl., 54 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001092583	A1	20011206	WO 2001-US18023	20010531
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, VZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			

PRIORITY APPLN. INFO.: US 2000-586125 A2 20000602

AB The present invention provides methods and kits for detg. the identity of a nucleotide at a variant site in a target nucleic acid of interest, including, for example, point mutations and single nucleotide polymorphisms. The methods involve conducting template-dependent extension reactions in the presence of a mixt. of nucleotides including labeled extendible nucleotide and labeled non-extendible nucleotide that are selected to be complementary to the nucleotides that potentially occupy the variant site. The particular labeled nucleotide incorporated into the extension products is characteristic of the nucleotide at the variant site. The methods can be used in conducting genotyping analyses and can be performed in multiplexing formats. In addn. to their utility in analyzing point mutations and single nucleotide polymorphisms, the methods and kits of the invention have utility in a variety of other applications in which specific nucleotide sequence information is of value, including, for example, paternity disputes, prenatal testing, forensic anal. and detection of pathogens.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:798475 CAPLUS
DOCUMENT NUMBER: 135:353697
TITLE: Detecting gene mutations or polymorphisms via the proofreading activity of polymerases and uses thereof
INVENTOR(S): Xu, Hua; Mathies, Richard A.
PATENT ASSIGNEE(S): DNA Sciences, Inc., USA

09/784232

SOURCE: PCT Int. Appl., 82 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001081631	A1	200111101	WO 2001-US13136	20010424
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			

PRIORITY APPLN. INFO.: US 2000-558245 A2 20000425

AB The present invention provides methods and **kits** for detg. the identity of a nucleotide at a variant site of a nucleic acid of interest, including point mutations and single nucleotide polymorphisms (SNPs). The methods utilize the proofreading activity of certain DNA polymerases in conjunction with selected detection primers to generate labeled and unlabeled extension products that are characteristic of the nucleotide at the variant site in the target nucleic acid. The methods are designed so that if the detection primer is complementary to the nucleotide at the variant site of the target nucleic acid, label from the detection primer is retained in the product. If, however, the primer is not complementary to the nucleotide at the variant site, then label from the detection primer is not retained in the product. The invention further provides methods and **kits** that have utility in a variety of other applications in which information about specific nucleic acid is of value, including **detection** of **pathogens**, resolu. of paternity disputes, prenatal testing and forensic anal.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:472904 CAPLUS

DOCUMENT NUMBER: 135:73344

TITLE: RNA polymerases from bacteriophage .phi.6-.phi.14 and their use for primer-independent RNA synthesis

INVENTOR(S): Makeyev, Eugeny; Bamford, Dennis

PATENT ASSIGNEE(S): Finland

SOURCE: PCT Int. Appl., 63 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

Searcher : Shears 308-4994

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PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001046396	A1	20010628	WO 2000-FI1135	20001221
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.: FI 1999-2751 A. 19991221

AB A polymerase originating from a dsRNA virus catalyzes RNA synthesis using ssRNA, dsRNA, ssDNA, or dsDNA templates is disclosed. Such a polymerase can be purified from a dsRNA virus, and a protein having the amino acid sequence of such a polymerase is useful in methods and kits for in vitro RNA synthesis. A polymerase of the invention is processive, has very high RNA-polymn. rate and does not require primer for the initiation of RNA synthesis, although it is also able to initiate RNA synthesis in the presence of a primer. Expression and purifn. of recombinant P2 polymerase of bacteriophage .phi.6 is described. Nucleotide sequence of the P2 gene of bacteriophage .phi.6 and amino acid sequence of the encoded RNA polymerase are provided. RNA synthesis by the .phi.6 RNA polymerase in the reaction mixts. programmed with dsRNA, ssDNA and dsDNA **substrates** is described. Primer-independent synthesis is esp. useful in amplifying RNA for quantitation of RNA species in the sample and their identification by direct sequencing. This methodol. is esp. useful in **detecting pathogenic** parasites and differences in gene expression levels assocd. with diseases.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1997:640790 CAPLUS

DOCUMENT NUMBER: 127:289120

TITLE: Nucleotide sequence detection with signal amplification using particle-immobilized probes

INVENTOR(S): Delair, Thierry; Elaissari, Abdelhamid; Charles, Marie-Helene; Mandrand, Bernard

PATENT ASSIGNEE(S): Bio Merieux, Fr.; Delair, Thierry; Elaissari, Abdelhamid; Charles, Marie-Helene; Mandrand, Bernard

SOURCE: PCT Int. Appl., 29 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9735031	A1	19970925	WO 1997-FR483	19970319
W: CA, US				

Searcher : Shears 308-4994

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RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
PT, SE

FR 2746413	A1	19970926	FR 1996-3412	19960319
FR 2746413	B1	19980424		
US 6033853	A	20000307	US 1997-952397	19970108
CA 2219458	AA	19970925	CA 1997-2219458	19970319
EP 827552	A1	19980311	EP 1997-915516	19970319
EP 827552	B1	20020102		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, FI

PRIORITY APPLN. INFO.: FR 1996-3412 A 19960319
WO 1997-FR483 W 19970319

AB A **kit** for detecting a nucleotide sequence of interest with signal amplification is described, said **kit** contg. a labeled nucleotide probe and a reagent including a suspension of particles on which at least one series of oligonucleotide units is immobilized. Each of the series of oligonucleotide units, which are all identical, includes, at least, a nucleotide sequence hybridizable with said sequence of interest and a nucleotide sequence hybridizable with said probe. Said reagent contains more than 10 such oligonucleotide units per particle. The **kit** is particularly useful for diagnosing genetic diseases or **detg. pathogens** such as bacteria, viruses, fungi or parasites. A method to detect hepatitis B virus was demonstrated. It consisted of a plastic reaction well to which a virus-complementary oligonucleotide probe coupled to a polymeric tail was passively attached. Viral DNA which hybridized to this immobilized probe was detected by addn. of (1) latex particles to which many (identical) viral-complementary probes were attached, (2) an alk. phosphatase-labeled probe complementary to the latex particle-immobilized probes, and (3) a **substrate** for the alk. phosphatase.

L16 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1994:265356 CAPLUS

DOCUMENT NUMBER: 120:265356

TITLE: Detection of Escherichia coli or other microorganism using gas sensors

INVENTOR(S): Strachan, Norval James Colin; Ogden, Iain Derek

PATENT ASSIGNEE(S): Minister of Agriculture Fisheries and Food, UK

SOURCE: PCT Int. Appl., 16 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9404705	A1	19940303	WO 1993-GB1778	19930820
W: AU, CA, JP, NZ, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 656066	A1	19950607	EP 1993-919459	19930820
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, NL, PT, SE				
PRIORITY APPLN. INFO.:			GB 1992-17843	19920821
			GB 1992-19150	19920910
			WO 1993-GB1778	19930820

Searcher : Shears 308-4994

AB A method is provided for assessing the contamination status of materials with respect to possible presence of microorganisms (e.g. E. coli), particularly pathogenic microorganisms, by measuring the prodn. of a specific gas or vapor evolved by a sample of the material when it is incubated with a bacterial enzyme **substrate**. More particularly the method relates to the selective detection of E. coli in the material sample and relating the presence and/or amt. of these to the presence and/or amt. of pathogenic organisms. The method is particularly applicable to test foodstuffs for the likely presence of pathogens. Most preferred **substrates** are o-nitrophenyl-.beta.-D-glucuronide and methylsalicylyl-.beta.-D-glucuronide. Test **kits** for carrying out the method are also provided. Foodstuff suspected of contg. contaminating organisms was analyzed. A figure showing the relationship between no. of E. coli colonies found and the incubation time required to obtain a detectable amt. of o-nitrophenol in the head space above an incubated sample is also included.

L16 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1991:625473 CAPLUS

DOCUMENT NUMBER: 115:225473

TITLE: Procedure for the **detection** of plant **pathogens** under field conditions and a diagnostic **kit** for its application

INVENTOR(S): Burochik, Moises; Haim, Liliana

PATENT ASSIGNEE(S): Agrilab Biotechnology Ltd., Israel

SOURCE: Eur. Pat. Appl., 27 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 444649	A2	19910904	EP 1991-102956	19910227
EP 444649	A3	19911227		

R: DE, ES, FR, GB, IT, NL

PRIORITY APPLN. INFO.: AR 1990-316268 19900227

AB A method and a diagnostic **kit** for detecting phytopathogenic agents in plant tissue by nucleic acid hybridization on a membrane filter under field conditions are described. The method comprises labeling the nucleic acid probes with biotin or sulfonation of the cytosine residues, and detection of the labeling using avidin/streptavidin and the sandwich-type immunoassay, resp., by naked eyes. A set of soln./reagents for hybridization, washing, blocking, and coloring are also disclosed. Detection of potato viruses PVX, PVY, PLRV, and viroid PSTV, and tomato yellow leaf curl virus (TYLCV) were demonstrated.

L16 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1991:227371 CAPLUS

DOCUMENT NUMBER: 114:227371

TITLE: Monoclonal anti-idiotypic antibodies, their preparation and **kits** containing them for diagnostic detection of antibodies to infective agents